

**TEXT FLY WITHIN  
THE BOOK ONLY**

UNIVERSAL  
LIBRARY

OU 168506

UNIVERSAL  
LIBRARY





**OSMANIA UNIVERSITY LIBRARY**

Call No. 660/W897. V.5. Accession No. 26855.

Author Worden S. G.

Title Technology of Cellulose Esters.  
1933.

This book should be returned on or before the date last marked below.

---







# TECHNOLOGY OF CELLULOSE ETHERS

A THEORETICAL AND PRACTICAL TREATISE ON THE  
ORIGIN, HISTORY, CHEMISTRY, MANUFACTURE, TECH-  
NICAL APPLICATION AND ANALYSIS OF THE  
ETHERIFIED CELLULOSES AND CARBOHYDRATE  
CARBOXYLATE ETHERS (ESTERIFIED CEL-  
LULOSE ETHERS, ETHERIFIED ORG-  
ANIC CELLULOSE ESTERS)

*Including*

ALKYLCELLULOSES, ARYLCELLULOSES, ARALKYLCELLULOSES,  
AS METHYLCELLULOSE, ETHYLCELLULOSE, BENZYLCELLU-  
LOSE, WITH CELLULOSE FORMATE, CELLULOSE ACE-  
TATE, THEIR SOLVENTS AND PLASTIFIERS, AS  
APPLIED TO TECHNOLOGY, PHARMACY, MEDI-  
CINE, MICROSCOPY, PHOTOGRAPHY, DEN-  
TISTRY AND THE PEACEFUL ARTS

*By*

EDWARD CHAUNCEY WORDEN, FIRST  
Ph.C., M.A., D.Sc., F.C.S., F.S.A., F.L.S., F.I.F.S.

AUTHOR "NITROCELLULOSE INDUSTRY," "TECHNOLOGY CELLULOSE  
ESTERS," "CELLULOSE ACETATE," "CHEMICAL PATENTS  
INDEX, UNITED STATES 1915-1924."

In Five Volumes

---

VOLUME FIVE

INDICES OF PATENTS, NAMES AND SUBJECTS

---

WORDEN LABORATORY AND LIBRARY  
MILLBURN NEW JERSEY

1933

*Illustrated*

Copyright, 1933  
by  
EDWARD CHAUNCEY WORDEN, I

NEWARK PRINTING COMPANY  
Newark, New Jersey

## INDEX OF PATENTS

Prepared by Mae T. Forbringer

NOTE—The patents are placed numerically under the respective countries arranged alphabetically, the Applications for patents in each country preceding an enumeration of the granted patents. Due to a vacillating policy of recording Austrian patents, it has, in some instances, been impossible to differentiate between the patents and patent applications. Therefore, the first section records the Applications, while the second section enumerates the (supposedly) patents, in which may be included Applications and Privileges. The English Patents follow the Applications, but up to 1854 in Great Britain, one system had a continuous numbering of patents, whereas another began with number one on Jan. 1 of each year. From 1855-1915, inclusive, patents began with number 1 on Jan. first of each year, while beginning with Jan. 1, 1916, to date, the patent numbers are consecutive, commencing with 100001. With French patents, the Additions succeed the original patent number instead of being recorded together under a separate heading, thereby permitting improvements on the original patents to be observed without additional search. The German Applications are first recorded alphabetically according to the first letter of the patentee's name, followed by the Patents granted.

The following summary indicates the disposition by countries of the 39,281 citations of 13,173 separate patents contained in this volume:

COUNTRY	NO. PATENTS	CITATIONS
Australia	29	46
Austria	249	455
Belgium	517	630
Canadian	1007	1438
Denmark	22	37
France	1711	3149
German	1557	2584
Great Britain	3696	7580
Holland	47	67
Hungary	30	43
India	43	55
Italy	267	367
Japan	11	14
Luxembourg	3	3
Mexico	1	1
New Zealand	9	12
Norway	50	72
Portugal	4	9
Russia	20	27
Spain	10	16
Sweden	22	32
Switzerland	264	453
United States	3603	9037
	<hr/> 13,173	<hr/> 39,281



**ARGENTINA**

30974, 194

**AUSTRALIA**

46, 385,1866  
 2543, 58, 59,1432,  
 1535,1592,1596  
 5287, 115,1820  
 5422, 169,1338  
 5961, 2128  
 6250, 59,1432  
 6590, 715  
 9238, 2021  
 9239, 2021  
 9240, 2021  
 9241, 2021  
 12206, 450  
 12325, 522  
 12965, 590  
 12966, 590  
 13743, 1338  
 14598, 1409  
 15154, 147,1897  
 15187, 115,1820  
 15337, 802  
 15658, 803  
 15976, 716  
 16635, 169, 202,1941  
 17711, 755  
 18855, 1171  
 19169, 590  
 23003, 214,1568,2452  
 23004, 214,2414  
 23156, 214,1542

**AUSTRIA****Applications**

183, 410  
 403, 409  
 499, 425  
 577, 361  
 1274, 44, 416,1418  
 1787, 403  
 1793, 417  
 1905, 41, 361  
 2182, 44,1418,1483  
 2337, 415  
 2356, 40  
 2376, 390, 438  
 2503, 411  
 2728, 411  
 2906, 385  
 2907, 385  
 2990, 415

2995, 388  
 3130, 422  
 4642, 374, 2018  
 4671, 410  
 5148, 386, 438  
 5187, 349  
 5592, 399, 1822  
 5896, 438  
 6067, 411  
 6220, 385  
 7132, 410  
 8062, 392  
 8334, 410  
 8607, 425  
 8776, 438  
 9227, 399  
 9194, 422  
 9533, 377  
 9777, 394  
 9782, 387

**Patents**

3034, 459  
 4642, 2025  
 4953, 2174  
 6545, 1928  
 7052, 1913  
 7720, 2602  
 8165, 41, 328, 333,  
 345, 442,1902  
 8172, 333  
 8192, 1963,2022  
 8495, 1290  
 8607, 2536  
 9624, 1290  
 11204, 2616  
 11697, 2603  
 12113, 2602  
 14886, 1492  
 15112, 2603  
 16377, 339, 468,1866  
 16941, 2602  
 17456, 339, 442  
 17684, 1830,1834,2049  
 19604, 339  
 20407, 1537  
 21213, 335, 442  
 24952, 1822  
 25335, 369  
 25770, 1841  
 26335, 1932  
 26976, 2498  
 27060, 369,2030  
 27258, 385  
 29219, 343, 442  
 29281, 353

29831, 353  
 31203, 363, 411, 442  
 31310, 2174  
 31391, 336, 337, 345,  
 442,1380,1822  
 32175, 2015,2021  
 32636, 336, 340  
 32637, 336, 442  
 33452, 351  
 33472, 442  
 34908, 1866,2049  
 33508, 338, 351, 442  
 34272, 349, 442  
 34908, 355, 442  
 35015, 345, 442  
 35448, 444  
 36126, 359, 369  
 36843, 344  
 37137, 2174  
 37138, 369  
 37386, 363  
 38532, 2128  
 41461, 349, 442  
 41811, 350, 442  
 41831, 354, 442,1697  
 42260, 1947  
 42440, 344  
 45594, 2016  
 45765, 362  
 46036, 377  
 46991, 383, 442,1819  
 1866  
 47237, 415,1969  
 47238, 1969  
 47244, 391, 442,1687  
 47679, 391, 442,1681,  
 1687  
 47889, 385  
 47890, 2049  
 47899, 385, 442,1803,  
 1804,1830,1841,  
 1843,2025,2049  
 49177, 442  
 50331, 392, 442  
 50656, 394,1889  
 51094, 2049  
 52289, 439, 442  
 53099, 442,1910  
 53109, 391,1687  
 53738, 442  
 54512, 387, 442,1687,  
 2049  
 54574, 442  
 54710, 1483  
 54719, 46, 415,1576,  
 1807  
 54819, 387, 442

55514, 385	1418,1482	105039, 89,1722
55527, 400,1940,1953	83399, 1278	105040, 132,2325
55654, 417	83400, 84,1224,1428,	105804, 734,1817
56250, 1287,1687,1940,	1663,1675	106039, 1268
1953	86756, 1231	107289, 2661
56488, 1803	86757, 1231	107831, 85,1426
57421, 386, 388, 442	87694, 1279	108107, 132,1643
57984, 385	87713, 569,1864	108139, 89,1383
59580, 401	87720, 569,1864	108143, 91,1644
59986, 424	87803, 87,1161,2450	108400, 125,1644
60039, 413	88350, 539	108421, 1823
60447, 386, 442	88549, 1252	108424, 1823
61055, 1157,1338,1940	88625, 1823	111233, 169
61132, 1723	88638, 585	111247, 1225
62809, 21, 416,1338,	89298, 1252	111566, 724
1418,1864	89590, 43	112620, 205,1414,1425,
63524, 1287,1407	89859, 86,1488,1569,	1538
63526, 11,1180,1282	2447	112623, 205,1414,1425,
63556, 425,2536	90010, 46,1576,1807	1538
63966, 416,1811	90080, 1224	112857, 2115
64065, 442	91240, 1251	114018, 833
64085, 420	91246, 83,1421	116377, 629, 836
64393, 1800,1803,1982,	91535, 1807	116727, 724, 835
1984,1986	91680, 86,1488,1575,	116823, 88,1763,1768
65040, 425	1807	117047, 833
65288, 1287,1687,1940,	92317, 1282,1283	117056, 253,1603,1757
1953	92318, 1283	117057, 835
65834, 392, 442	92320, 288	117486, 834
66165, 382	92914, 86,1569,2447	117706, 249,2113
66526, 408,1982,1985	93928, 82,1420,1484	117858, 724
67676, 442	94837, 85, 101,1426,	118235, 253,1641,2217
67697, 425	2233,2465	118246, 147,1897
67812, 411, 442	96156, 2488	118598, 1429
67814, 384, 442	96825, 1251	118635, 243,2047,2577
64843, 1282,1286	96996, 101,2233	119478, 724
67844, 1282,1286	96997, 87, 101,2233	119959, 1268
67942, 410, 442	97634, 83,1421	120859, 724
69323, 1282	97660, 86,2224	120875, 888, 980,1719
69736, 425	99018, 2498	121030, 90,1641,1768
69785, 422	99665, 93,1830	121031, 90,1641,1768
70059, 2619	99910, 1243	121032, 90,1641,1768
70772, 479	100715, 2488	121251, 724,1015
70782, 410	100733, 2499	121997, 975
71287, 468	101001, 91,1748	121998, 724
72493, 1868,1869,2049	101021, 82,1347,1424	122076, 89,1722
73001, 11, 21, 230,	101665, 84,1422	122499, 912
415,1180,1338,	101965, 2498	123395, 908,2334
1418,1564,1864,	101971, 2498	125234, 1389,1398
2385,2621	102305, 88, 132,1643,	125698, 1150,1171
78217, 11, 82,1420,	1763,1768	126572, 2115
1687,1940,1953	102306, 90,1641,1768	126586, 1611,1612
78982, 436,1941	102307, 89,1768	
78983, 436,2390	103106, 975	
79427, 444, 508,1930	103496, 1268	
80625, 549	103497, 1268	
82837, 247	104709, 91, 132,1643	
82866, 44, 416,1160,	104713, 129	

**BELGIUM**

**Patents**

56230, 1814  
68890, 2174

## Belgium

77879, 1805	197313, 2128	239564, 401,1733
76272, 2174	197484, 354	241116, 399
109692, 2603	197958, 2128	241250, 396
113156, 322	197985, 2128	241251, 398,1822,1832,
137577, 328,1697,1700,	198836, 365,2501	1860,1866,1872,
1842,2002	198984, 362	1928,2003
138462, 328,1697,1842	198985, 362	241252, 398
144371, 2174	199328, 1909	241975, 384,2059
145542, 2045	199492, 351, 359	242735, 1909
146267, 2602	200494, 1806	243067, 2489
148560, 2033,2043	201017, 352	243162, 401,2045
151294, 451	202785, 2601	244470, 411
159971, 2602	207073, 2601	244554, 1240
160378, 339	207484, 2174	244950, 392, 412
163251, 338	207839, 369	245532, 414, 454
163518, 2603	210024, 2128	246232, 2129
164703, 2602	211270, 2128	246250, 396, 409
164868, 452	212788, 2128	246251, 396, 409
167158, 452	213757, 2128	246526, 1808
167540, 2601,2602	214256, 2129	246562, 413
169302, 2607	214380, 2603	247933, 2619
170379, 2601	214478, 2128	247990, 2174
170381, 2601	214671, 361	248907, 410
170381, 2601	214711, 2128	250115, 1868
170552, 2601	215187, 2059	250116, 1868
170553, 2601	216668, 377	250117, 1868
171743, 341,1490	217148, 2128	250118, 1868,1869
174524, 2600	217837, 362	251010, 414
178221, 457	219965, 377	251011, 414
178852, 2128	220225, 374,2018	251795, 394
181504, 345	220478, 2600	252594, 416,1811
182050, 352	220479, 2600	252722, 1869
182051, 352	220854, 2600	252882, 414, 421
182052, 352	222106, 394,1889	252906, 1719
182216, 345	222298, 1832	253353, 420
183877, 345,1263	222416, 385,1804	254591, 11, 415,1180,
184456, 2174	223996, 391,1687	1687,1940,1953
184896, 2047	224741, 391	255026, 2174
185342, 2128	225222, 1909	255253, 1157,1940,1953,
185742, 2128	225343, 2603	2610
185822, 1358	226126, 2603	256116, 2616
187308, 349	226582, 383, 438,1866	259019, 425
190920, 2030	228668, 379	259073, 1822
191178, 2174	229046, 386	259277, 423
191531, 2021	229396, 394	259495, 1232
194658, 2030	229404, 389	259551, 1922
194836, 2014	229995, 392	261288, 425,2536
194975, 1840	231297, 387	261464, 394
195098, 2480	231853, 387	261693, 422
195837, 356,2501	232255, 389	262208, 1868
195838, 343, 356	232475, 402	265559, 423
195839, 356	232699, 396,1913	266272, 422
195840, 343	233792, 386	269317, 496
195899, 1358	233876, 390	270223, 838
196777, 2601	234433, 386, 388	285557, 705
196778, 2601	234732, 2129	285696, 590
196779, 2601	237056, 376	285860, 522

285868, 522	323116, 2618	343505, 637,2267
286146, 523	323117, 2618	343506, 636
286147, 1030,1032	323360, 2112	343916, 2112
287312, 560	323797, 1232	344887, 2661
288151, 562	324538, 637	344888, 1050
290448, 39,1535,1591,	325254, 57,1853	344889, 607,2211
1594,1610	325270, 38,1763,1768	344890, 137, 775,1584,
290449, 40,1432	325272, 91,1644	2154
290613, 1432	325273, 91,1644	345941, 626
291528, 48,2579	325277, 687	345492, 605
291902, 2307	325278, 687	345564, 631
291914, 588	325279, 687	345565, 631
291920, 555	325280, 687	345566, 636,2155
291921, 578,2307	325963, 1252	345567, 2112
292200, 578	326722, 707	346285, 637
292201, 578	326725, 719	346286, 637,2242
292613, 2488,2489	326762, 635	346287, 637
292639, 509	326763, 635	346989, 631
292843, 2488,2489	327430, 645	346990, 631
293417, 46,2620	327433, 680	346991, 631
295035, 568	327477, 63,1688	347045, 165
295036, 568	327478, 2191	347095, 666
295386, 509	328067, 720	347479, 2112
296729, 509	328117, 607,2212	347679, 723
296766, 509	328668, 637	347680, 723
296814, 509	328669, 634	347831, 689
299881, 509	328736, 607,2266	348187, 729
300944, 144	328802, 637	348212, 637
302653, 523	329319, 1855	348213, 2267,2661
303245, 48,2579	329332, 684	348214, 2267
303246, 48,2579	329337, 686	348774, 729
306174, 49,2086	329338, 91,1644	349525, 1171
307358, 545	330723, 670,1971	350136, 2112
307374, 590	330725, 1971	350137, 637
308071, 2489	330789, 2112	350179, 729
309157, 82	330795, 97,2528	350232, 670
309771, 494, 556,2276	331345, 635	350271, 729
310377, 522	338391, 637	350722, 670
310428, 523,2088	339107, 632	350769, 150,1797
310961, 540	339733, 1382	350777, 2295,2661
311568, 442	340536, 2212	351088, 668
311611, 528,2282	340537, 637	351137, 668
311612, 528,2212	340538, 636	351169, 667
311613, 528,2212	340539, 636	351182, 2079
312222, 523	340540, 635	351295, 2079
313237, 46,2620	341998, 632	351362, 729
314537, 1267	341999, 632	351419, 722
314568, 61,2079	342075, 635, 775	351420, 2115
316475, 530	342076, 635	351556, 2079
317135, 1286	342077, 635	351703, 2571,2661
317800, 494	342814, 602	351775, 631
318416, 1262	342815, 631	351776, 2079
319049, 1283	342817, 631	351783, 729
319078, 590	342818, 607,2344	351906, 630,2354
320282, 1279	343438, 134,2569	352197, 597
320301, 46,2620	343439, 633	352198, 2113
323101, 632	343504, 636,2172	

## Belgium

352199, 598	357298, 2349	367534, 1743
352200, 598	357463, 1961	367679, 850
352204, 822	357662, 2255	368156, 1261
352205, 822	357710, 2349	368166, 900
352207, 821	357748, 838	368313, 784
352234, 2112	357749, 2112	368431, 907
352382, 2268, 2661	357944, 2209	369053, 881
352411, 630	358020, 1438	369299, 880
352413, 427	358066, 1035	369591, 883
352472, 110, 2145	358067, 1035	370088, 784
352522, 646	358248, 808	370566, 1766
352614, 168, 2262	359431, 2112	370835, 849
352640, 729	359497, 2395	370932, 877
352641, 729	360796, 2041	371218, 866
352642, 2112	360901, 2255	371220, 738, 849
352643, 631	360902, 2255	371607, 1651
352815, 637	361052, 1050, 2636	371637, 849
352821, 729	361055, 1030	371859, 877
352964, 729	361056, 1030	372104, 877
353110, 729	361057, 1030	372319, 843
353112, 1179	361480, 807, 2368	372398, 895
353145, 729	361494, 1029	372407, 774
353232, 750, 2268	361531, 1037	372408, 774
353304, 2112	361532, 1037	372409, 773
353463, 635	361636, 1029	373749, 881
353563, 2270	361956, 2586	373801, 2088
353564, 751, 2268	362032, 2352	374228, 877
353739, 1897, 2661	362542, 2351	374646, 905
353792, 729	362600, 1029, 2354	374858, 907
354051, 660, 2589	362731, 2112	375210, 790
354320, 634, 1030	362860, 1035	375245, 877
354653, 729	362989, 2349	375513, 1550
354736, 670	363154, 1038	375515, 292
354784, 149, 1440	363320, 591	375731, 1013
354847, 2262	363405, 2354	376291, 977
354852, 730, 1822	363462, 2112	376461, 1055
354874, 635, 2088	363568, 2112	376547, 849
354883, 696, 2198	363570, 2112	376640, 926
354884, 696	363571, 2112	376977, 977
354978, 631, 2192	363674, 2112	376997, 959, 2112
355389, 730	363782, 2224	377006, 849
355400, 1764	363810, 1040	377253, 1009, 1744
355452, 693	363812, 2112	377429, 1855
355665, 729	364509, 2079	377434, 1876
355930, 637	364521, 2661	377606, 959
355931, 635	364627, 2079	378258, 1012
356130, 669	364702, 1035	378351, 926
356349, 1030	365077, 2363	378385, 1070
356418, 755	365773, 2112	378467, 923
356527, 2112	366142, 838	379818, 1025
356604, 2255	366143, 838	379824, 1035
356606, 2224	366321, 784	379845, 1040
357061, 755	366337, 897	379898, 1035
357095, 2255	366433, 234, 1577, 2426	380037, 277
357096, 1030	366501, 912, 2502	380154, 1026
357100, 2079	366720, 1743	380155, 1026
357297, 2079	366979, 882	380211, 1039

380373, 1034  
380481, 1035  
380961, 1039  
381313, 2215  
381412, 1027  
381464, 1037  
381676, 1034

CANADA

Trademark

35266, 500

Patents

48294, 2608  
55104, 1953  
62042, 2501  
62188, 328, 1842  
63101, 328, 1697, 1700,  
1842  
66548, 2608  
67854, 2602  
68305, 2603  
70735, 2603  
75281, 2603  
78060, 1830  
79890, 2602  
82572, 2601  
90848, 339  
99456, 2128  
102043, 2601  
103036, 2014  
107996, 367, 2434  
108703, 2600  
114758, 2600  
123818, 2600  
123819, 2600  
123820, 2600  
127966, 2047  
129265, 385, 1804, 1841,  
1843, 2025  
129983, 385, 1866  
131425, 2600  
131434, 2054  
133197, 386, 387  
134164, 387  
136378, 2603  
136538, 393, 1884  
139046, 400, 412  
139235, 385  
147423, 1868  
147578, 416, 1811  
147579, 416, 1811  
150646, 1157, 1940, 1953,  
2610

153891, 1922  
154062, 1140  
155724, 396  
167714, 2128  
169507, 438  
175107, 472, 1901  
182581, 2611, 2616  
182582, 2616  
183250, 442  
184065, 2616  
186045, 473  
186632, 474  
186633, 474  
188801, 2128  
191262, 41  
191263, 41  
191427, 41  
191428, 41  
191562, 41  
191800, 451, 452  
191801, 452  
191802, 451, 452  
195559, 485, 1802, 1863  
196151, 1830  
196925, 1830  
196926, 1830  
197134, 441  
198265, 571, 1863  
198972, 563, 1804  
200433, 571  
203124, 1823  
208018, 1284  
213628, 2030  
214163, 515  
214462, 1923  
214472, 515  
217575, 473  
217576, 473  
217624, 473  
217625, 473  
217626, 473  
218373, 473  
218608, 2617  
220531, 590  
220831, 84, 1348, 1424  
221282, 1240  
222377, 83, 1421  
222780, 514  
223046, 566  
224374, 581  
227269, 575, 2552  
228813, 2295  
229124, 1055  
231641, 1973  
232641, 1983  
232642, 1983  
233420, 510

234321, 509, 1799  
236696, 511, 2242  
236697, 2271  
236949, 511, 2270  
236956, 59, 1432  
237664, 563  
237709, 59, 1432  
237832, 568  
237841, 576  
238217, 525, 1862, 1879,  
2473  
238888, 558  
240207, 2617  
241465, 540  
241466, 540  
242537, 505  
243123, 583  
243849, 516  
244018, 538  
244388, 549  
244792, 515  
244972, 2604  
245307, 522  
245859, 2498  
245985, 654, 730  
247141, 2498  
247142, 2498  
247234, 62, 2339  
247337, 2489  
247385, 601  
247519, 563  
248226, 44, 1418, 1483  
248228, 85, 1418  
248229, 82, 1347, 1424  
248230, 82, 1347, 1424  
248231, 83, 87, 1425  
248232, 84, 1224, 1428,  
1663, 1675  
248771, 61  
249159, 637, 2242  
249584, 2489  
249680, 2488  
249681, 2488, 2489  
249726, 624, 2331  
249773, 86, 1488, 1575,  
1807  
249774, 86, 2224  
249775, 85, 1426, 2465  
249776, 87, 2071  
250537, 596, 2558  
251634, 2611  
252108, 2618  
252227, 2090, 2107  
252228, 2090, 2107  
252565, 734  
252955, 82, 1347, 1424  
253168, 61, 2093

## Canada

253734, 625	264485, 592	276553, 2661
256395, 583	264781, 724	276554, 2661
256509, 2617	264990, 619,2042,2555	276555, 2267,2661
256979, 726	264991, 619,2362	276556, 637,2267
256980, 726	265027, 717,2209	276825, 626
256981, 726	265238, 632,2211,2285	277024, 146,1661
256982, 726	265930, 593	277598, 711
256983, 726	265988, 627,1945,2330,	277599, 163
257056, 719	2497	277760, 654
257424, 687	266537, 706	278731, 706,2331
257645, 113,2440	267104, 1855	278840, 632
257831, 680	267316, 2498	278841, 632
258028, 707	267551, 634,1397	278842, 632
258628, 685, 720	267699, 2497	278904, 2191
258763, 734	267894, 733	278935, 625
258764, 734,2122	268067, 724	278936, 625
258765, 734,1817	268275, 2498	278978, 166,2476
258769, 734	268571, 57, 617,1810,	278985, 593,1951
258982, 2617	1853,1879	279167, 798
259103, 2618	268951, 1245	279892, 635,2088
259146, 724	269482, 102,1578,1923	279952, 724
259147, 724	269818, 720	279966, 686,2238
259194, 2489	269849, 639,2211	280291, 2187
259328, 686	270288, 2536	280645, 630,2354
259330, 1643,1768	270333, 617	281180, 617
259331, 1643	270404, 111,2569	281189, 106, 521,1984,
259475, 68	270537, 629,2491	2088,2220
259662, 1833,1879	271232, 615,2145	281190, 142,2267,2287
260319, 636,2172	271278, 607,2212	281191, 635
260463, 57,1830,1853,	271279, 607,2266	281192, 637,2244
1879	271280, 640,2270	281193, 637
260464, 57, 617,1851,	271948, 705,1973	281194, 637,2270
1853	272494, 2442	281195, 637,2155
260465, 57	272792, 2490	281352, 640,2349
260466, 57,1853	273366, 105,2148	281640, 1852
260530, 499,2285	273367, 103,1698,2146	281686, 165,2524
260843, 91	273515, 656, 666, 799	281702, 656,1494
260844, 687	273715, 715	282185, 602
260927, 1879,1906,1911,	273732, 627	282326, 108, 140,2100
1943,1974,1999	274219, 656	282684, 2408
260928, 1974	274567, 688	282961, 1030
261187, 729	274779, 724	283058, 1905,1918
261371, 624,1833,1879	275323, 115, 251,1820,	283366, 666
261525, 734,1866	2414	283385, 820
261560, 680	275369, 623, 760,2462	283660, 633
261766, 627	275559, 624,2200	283661, 634
261823, 624	275737, 607,2172	283662, 632
261967, 69, 109,2085	275953, 2524,2661	283817, 609, 632
262271, 652	276324, 2054	283818, 636,2143
262404, 1855	276359, 2661	283892, 1968
262784, 1834,1853	276367, 631,2313	283917, 150,1436,1484
262826, 720	276512, 606,2254	284275, 727,2198
262843, 111,2342	276513, 606	284751, 615
263555, 724	276514, 636,2199	284876, 636
263785, 2489	276515, 143,2212	284877, 634
264211, 732,2492	276516, 137,1584,2154	284886, 655
264475, 2498	276517, 631	284973, 1407

285047, 631,2203	290464, 765,2324	293561, 762
285048, 631,2192	290517, 206	293641, 764,2394
285048, 2661	290518, 206	293642, 185,1822
285049, 608,2199	290519, 206	293732, 766,2588
285051, 634	290805, 787,2125	293733, 1030
285052, 633	290806, 192	293734, 186
285149, 1936	290808, 2488	293735, 186
285231, 134,2569	290861, 765,2325	293807, 790,1718
285240, 665,2595	291000, 779	293875, 1233
285360, 665,1850	291007, 1969	294305, 783
285798, 637	291026, 816,2588	294306, 783
285799, 142,1587,2267, 2286,2287	291033, 761,2124	294371, 766
285800, 637	291049, 839	294500, 1809
285801, 143,2156,2211	291434, 822,1681	294514, 1064
285802, 632, 636,2155	291435, 822	294724, 1855
285918, 667	291437, 211,2524	294939, 789,1711
285919, 670	291654, 755	294945, 789
285920, 671	291658, 2180	294946, 783
285928, 662	291762, 1966	295006, 2255
285929, 662	291770, 780	295007, 2255
285930, 662	292025, 821	295135, 782
285978, 636,1587,2155	292128, 835	295242, 764,2395
285979, 2266,2661	292129, 835	295243, 766
285981, 2093,2111	292490, 812	295343, 756
286538, 819, 822,1681	292644, 768,2395	295437, 737
286539, 822,1681	292670, 2543	295541, 1974
286812, 836	292842, 838	295542, 1974
286918, 185,1432	292845, 839	295629, 764
287094, 2661	292858, 2543	295666, 766,2130
287095, 766	292887, 760,2462	295667, 766
287513, 1955	292893, 777,2153	295668, 767,2554
287598, 1587,2214	292894, 775,2093	295754, 1893
287750, 822	292895, 775,2364	295755, 1906
287773, 774,2346	292962, 1805	295825, 767,2349
287774, 766,1413	293049, 1030	295858, 767
287892, 2489	293050, 776,2211	295859, 763
288362, 186,2605	293051, 774,2346	296404, 858
288363, 765,2324	293052, 2209,2219	296540, 861,2307
288641, 1995	293053, 774,2346	296663, 868
288642, 1995	293054, 2296	296741, 861,2205
289093, 838	293057, 774,2135	296775, 867,2395
289156, 778	293058, 2268	297070, 857
289157, 772	293059, 2268	297081, 880,2565
289158, 779	293060, 2284	297082, 880,2565
289159, 772	293063, 2270	297083, 880,2398
289160, 772	293064, 776,2270	297084, 882
289161, 772	293065, 774	297375, 2533
289162, 772	293066, 776,2286	297376, 861,2322
289163, 772	293067, 776,2178	297377, 861,2560
289525, 2270	293068, 1090,2439	297468, 877
289633, 761	293070, 2319,2346	297692, 229
289634, 762	293071, 2254,2255	297693, 863
289854, 799,1897	293163, 190,1592	297694, 2090,2661
289906, 765,2317	293375, 768	297853, 861,2194
289992, 762	293385, 2566	297857, 2119
	293404, 838	297858, 867,2339
	293458, 764	



## Canada

297861, 864	303242, 905	306973, 877
297862, 864	303274, 867,2379	307004, 905
297863, 867,2156	303277, 1030,2191	307035, 862,2554
297864, 867,2270	303278, 1030,2191	307036, 863,2395
297866, 864	303697, 1999	307037, 863,2395
298013, 237,2539	303890, 916	307038, 867,2211
298014, 877,1171	304199, 869,2200	307039, 868,2285
298172, 301,1172	304200, 869,2142	307040, 867,2157
298341, 861,2307	304211, 879,1717	307239, 863
298454, 1945	304212, 879,1712	307398, 1972
298722, 2093	304219, 877	307525, 2309
298757, 2331	304220, 880,1852	307761, 1018
298857, 1994	304221, 244,1612	307798, 1173
298966, 917	304293, 862,2156	307799, 1173
299012, 2372	304295, 2506	307989, 950,2394
299013, 2088	304450, 862,2093	308108, 188,1848
299073, 842	304969, 244,2419	308125, 964
299299, 1168	305048, 2382	308126, 2190
299309, 1905	305232, 915	308209, 2337
299310, 1933	305265, 1001	308248, 2359
299650, 861,2561	305295, 846,2585	308284, 998
299706, 843	305317, 867	308356, 980
300012, 897	305318, 864	308394, 897
300045, 2374	305319, 864	308432, 957
300046, 2168	305320, 275	308433, 959,2112
300132, 856,2502	305321, 275	308434, 959
300366, 2596	305322, 864	308436, 952,2360
300448, 861,2506	305323, 864	308437, 952,2361
300573, 878,2105	305324, 864	308445, 1008
300775, 856,1994	305428, 1027	308522, 2585
300776, 856,1993	305458, 1651	308568, 1011
300869, 862	305459, 880,2096	308604, 2348
300945, 1168	305507, 906,1728	308605, 953,2220
300990, 1941	305508, 906	308606, 2586
301020, 904	305509, 906	308607, 2586
301344, 1030	305535, 2193	308608, 2586
301530, 2118	305536, 867,2237	308618, 2146
301676, 880	305537, 867,2359	308623, 952,2356
301734, 901,1406	305539, 864	308741, 1003
301872, 2231	305540, 864	308743, 1003
301932, 901,1408	305541, 867	308744, 1002
301934, 901	305543, 2153	308936, 2108
301935, 901,1411	305544, 867	309130, 953,2173
301998, 867	305584, 889	309131, 953,2087
302423, 862	305657, 855	309503, 1385
302432, 2357	306326, 877	309594, 958
302648, 862,2034	306349, 1545	309595, 2160
302649, 224, 243,1572, 1577,2405,2570	306541, 222,2546	309756, 950
302650, 862	306819, 918	309861, 1807
302784, 858	306829, 1812,1982,2480	309983, 2561
302804, 878	306830, 862,2376,2378	309984, 1030
302878, 862,2307	306857, 867,2155	310119, 1945
302879, 862	306858, 865	310124, 1976
302999, 868	306960, 858	310150, 288,2425
303000, 868,2318	306961, 858	310250, 950,2395
303094, 773	306968, 877,1739	310251, 950,2561
	306972, 244,2598	310252, 2157

- 310405, 979  
 310732, 953  
 310803, 1008  
 310930, 950,2395  
 311079, 1861  
 311185, 952,2219  
 311408, 274,1382,1397  
 311409, 960,2094  
 311410, 959,2135  
 311488, 1976  
 311489, 258,1448,1918  
 311525, 981  
 311592, 959,2089  
 311593, 2365  
 311770, 953,2586  
 312024, 948  
 312025, 2615  
 312026, 948  
 312218, 1018  
 312219, 1018  
 312235, 2395  
 312341, 1809,1976  
 312568, 940, 971, 972,  
 1961,2393,2397  
 312569, 940, 972  
 312570, 940,1854,1875  
 312630, 997  
 312666, 953,2237  
 312667, 952,2171  
 312668, 950,2079  
 312669, 948  
 312793, 941,1066,1915  
 312805, 886,2506  
 312806, 918,1738  
 312906, 949  
 312945, 952,2379  
 313166, 352,2339  
 313336, 949  
 313338, 949  
 313340, 949  
 313341, 952,2309  
 313477, 980  
 313720, 1168  
 313825, 1012  
 313857, 746,2140  
 313992, 979  
 314309, 953  
 314310, 949  
 314312, 950,2079  
 314396, 223, 267,2452  
 314397, 223, 267,2452  
 314398, 1971  
 314448, 962,2209  
 314449, 959,2075  
 314576, 2596  
 314577, 941,1027,2505,  
 2560  
 314709, 1150  
 314909, 951,2205  
 315016, 939  
 315357, 958  
 315358, 958  
 315359, 958  
 315360, 274,1399,2187  
 315497, 2661  
 315536, 959  
 315537, 959,2094  
 315580, 178,2449  
 315581, 950,2439  
 315640, 1169  
 315641, 1168  
 315642, 1169  
 315656, 1027,2502,2506  
 315771, 2383  
 315772, 260,2592  
 315773, 270,2354  
 315803, 801,2490  
 315866, 1002  
 315902, 1019  
 315907, 1022  
 315965, 1003,2085  
 315966, 257, 821,2085  
 316009, 1008  
 316026, 958  
 316027, 958  
 316028, 958  
 316192, 957  
 316193, 961,2147  
 316194, 962,2349  
 316195, 962  
 316196, 962,2373  
 316197, 2121  
 316198, 959,2105  
 316200, 961  
 316201, 957  
 316202, 957  
 316203, 962,2351  
 316309, 940  
 316335, 2300  
 316422, 949,2365  
 316423, 950,2171  
 316549, 993  
 316587, 953,2362  
 316713, 941,2529  
 316728, 964,2208  
 316841, 953  
 317108, 960,2135  
 317109, 962,2094  
 317110, 959,2075  
 317111, 961,2329  
 317112, 2325,2329  
 317113, 2231  
 317114, 954,2325  
 317115, 954,2307  
 317116, 954,1084,2121  
 317117, 1007,2394  
 317205, 1918  
 317262, 288,1436  
 317329, 270  
 317330, 292,1563,1698,  
 2014,2016  
 317331, 2661  
 317658, 2120  
 317726, 996,2586,2588  
 317886, 1860  
 317919, 953,2586  
 317920, 954,2165  
 317959, 954,2604  
 318145, 953,1076,1077,  
 2586  
 318146, 954,2373  
 318147, 954,2395  
 318186, 2354  
 318197, 973  
 318370, 2407  
 318521, 954,2089  
 318561, 2567  
 318757, 948  
 318758, 954,2394  
 318759, 1030,2376  
 318838, 1995  
 318839, 1995  
 318891, 2370  
 318938, 974  
 319044, 1006  
 319056, 306,1558  
 319059, 1039  
 319137, 1001  
 319138, 975  
 319149, 954,2121  
 319150, 955,2394  
 319151, 955,2394  
 319152, 955,2394  
 319358, 1681  
 319439, 2473  
 319579, 958  
 319580, 957  
 319581, 957  
 319635, 1169  
 319728, 955,2395  
 319729, 955,2394,2561  
 319730, 955,2394  
 319731, 955,2394  
 319733, 955,1890  
 319734, 955  
 319735, 956,2092  
 319736, 956,2094  
 319737, 956,2144  
 319755, 1165,2661  
 319788, 2553

## Canada

319801, 1169	321955, 2150	324628, 2351
319839, 993	322054, 2405	324629, 2180
319949, 1871	322075, 2188	324630, 2203
319991, 2542	322076, 1033	324631, 2220
320249, 951, 955, 2205	322078, 1033	324632, 2189
320250, 956	322150, 2169	324633, 1079, 1093
320355, 1041	322195, 1064	324634, 2255
320359, 1035	322361, 2530	324635, 2217
320381, 2596	322362, 2535	324636, 2217
320394, 993	322386, 2090	324660, 2530
320447, 1020, 2134	322573, 1080, 1090	324954, 1094, 2483
320555, 966, 2100	322574, 1062	324955, 1079, 2629
320779, 1362	322776, 1090	325056, 1082
320783, 2393	322870, 1697	325060, 2339
320832, 2596	322871, 1060	325061, 1434
320833, 2595	322892, 1092	325062, 1434
320836, 2585	322977, 1055, 1066	325063, 2383
320837, 2596	322978, 1068	325148, 2362
320838, 2596	322979, 1062	325396, 1062
320839, 2596	322980, 1062	325531, 1063
320840, 1078, 2586	322981, 1045	325532, 1096
320841, 1078, 2583	322982, 1062	325613, 1069
320842, 2595	323142, 1066, 1090	325614, 1069
320860, 916	323143, 1902	325615, 1080
320913, 955	323144, 1895	325644, 1055
320914, 956	323145, 1088	325645, 1048
320915, 2084	323146, 1980	325646, 1048
320965, 1918	323382, 1061	325647, 1048
321040, 2439	323574, 1077, 2586	325859, 1048
321056, 2484	323575, 2094	325860, 1083
321116, 956, 2373	323576, 2094	325862, 1069
321129, 1700	323602, 2588	325866, 1082
321172, 1030	323603, 2372	325868, 1083
321191, 997	323604, 2184	326232, 1047
321218, 1020	323782, 2376	326248, 2639
321228, 993	323870, 1077	326249, 1062
321229, 1022	323997, 1061	326441, 2645
321241, 1035	323998, 1062	326631, 2639
321427, 1039	323999, 1069	326816, 2644
321492, 1027	324000, 1055	326817, 2644
321527, 1030	324113, 1568	326818, 2645
321528, 1030	324125, 2629	326847, 2640
321529, 1030	324207, 1069	327006, 2644
321531, 2176	324225, 2311	327007, 2640
321534, 1030	324226, 2118	327041, 1079
321536, 1030	324227, 2355	327192, 2642
321592, 2393	324228, 2157	327224, 1047
321714, 2287	324240, 2375	327242, 1049
321715, 2636	324242, 2380	327255, 2644
321716, 2372	324327, 2560	327533, 2640
321718, 2127	324412, 2180	327630, 1064
321720, 2076	324413, 1069	327633, 1062
321721, 2197	324414, 2165	327718, 2639
321722, 2076	324415, 2318	327755, 1062
321723, 2197	324417, 2358	327929, 2640
321724, 1032	324452, 2380	327930, 1050
321954, 2357	324627, 2179	327931, 2640

327933, 2640  
328065, 1059  
328388, 2638  
328389, 2639  
328390, 1058  
328542, 2640  
328724, 1099  
328725, 1100  
328945, 2644  
328948, 2639  
328949, 2639

# DENMARK

## Patents

2558, 328,1697,1700,  
1842  
2636, 328,1842  
9102, 2128  
18285, 11  
18473, 2499  
27195, 1797  
27724, 535  
27889, 583  
27963, 519  
28427, 583  
28835, 1157,1338,1940,  
1953  
29621, 46, 86,1488,  
1575,1576,1807  
29846, 1224  
30677, 83,1421,1687,  
1940,1953  
30791, 87,2071  
34343, 2489  
34584, 2498  
36092, 680  
36162, 1764  
36522, 2496  
36928, 91,1643  
37042, 680

## FRANCE

### Applications

554, 510  
3954, 516  
4082, 516  
8515, 570  
8976, 529  
16073, 570

### Patents

110571, 1805  
132495, 1814,1833,2049  
165349, 2068,2174

172208, 2174  
184247, 1805  
184548, 1830,1833,1834,  
1878,2049  
193601, 2499  
199375, 2028  
228158, 1930  
230177, 2602  
233727, 1830,1833,1930  
243546, 322  
243612, 1358  
266378, 2055  
268570, 2616  
280848, 328  
282320, 1842  
287572, 1257,1261  
288640, 2045  
292983, 1807  
295592, 2034,2042  
296132, 2480  
Ad. 3962, 296132, 2480  
296351, 2600  
Ad. 1365, 296351, 2600  
300672, 2005  
300676, 2005  
301703, 1928  
301749, 332  
304723, 333  
305481, 1888  
307007, 1380  
Ad. 1425, 307007, 1380  
307242, 1961,1967  
308372, 1978  
308506, 333  
309759, 333  
309962, 1895,1896  
309963, 1948  
310942, 1828,1969  
312086, 2014  
312087, 2014  
312817, 1872,2016  
316500, 339  
317007, 336, 337,1822,  
2501  
Ad. 1425, 317007, 336  
317008, 336, 337,2049  
319030, 772  
Ad. 36739, 319030, 772  
319217, 2174  
319469, 2602  
319542, 2049,2055  
319724, 338, 339, 340,  
346,1858,1889,  
2049,2607  
Ad. 811, 319724, 338,  
339, 340, 346,  
1889

319848, 338  
319926, 1856,2049,2057  
319948, 598  
320133, 1833,2049,2057  
320452, 1878  
320885, 340  
321241, 781  
Ad. 36583, 321241, 781  
321507, 2603  
321821, 2616  
322206, 338,1492  
322457, 1833,1878  
322506, 2046,2049  
322946, 2045  
324121, 1830,1833,1878,  
1878,2002,2049  
324718, 1833,2049  
324862, 329, 341  
324894, 2616,2618  
325336, 1909  
325548, 1857  
325585, 1928  
326174, 2602  
326463, 2501  
326468, 336, 340  
326576, 2049,2057  
326891, 2602  
328054, 1833,2049  
328221, 2600  
328357, 2611,2618  
328658, 1833,2028,2049  
330714, 344  
331819, 1833,2049,2056  
332087, 2128  
332181, 2601,2606  
332182, 2606  
332183, 2606  
332184, 2601,2606  
332203, 1657  
332336, 2601  
332337, 2601  
333824, 1833,1878  
333835, 2174  
334154, 341,1490  
335240, 2600  
336677, 2601,2602  
336970, 1833,1878  
338849, 343,2602  
Ad. 2694, 338849, 343,  
2602  
Ad. 2707, 338849,343,  
2602  
339081, 1856,2057  
339171, 2611  
339654, 1822  
340266, 2022  
340622, 1833,1878

## France

- 341007, 344  
 341173, 2128  
 341556, 2014  
 341690, 2128  
 342464, 1888  
 342469, 1878  
 344501, 1830,1878  
 344845, 1358  
 344848, 2128  
 345764, 345,1263  
 347270, 2600  
 Ad. 4701, 347270, 2600  
 347303, 1833  
 347906, 345  
 348618, 2022  
 349843, 2128  
 349884, 1822  
 349885, 2174  
 349970, 2047  
 349997, 2128  
 350442, 345  
 350723, 2174  
 351555, 1833,1856,1878  
 352298, 2128  
 352750, 1845  
 352853, 1833,2049,2053  
 352896, 343  
 352897, 343  
 354292, 2049  
 354942, 1856,2049  
 Ad. 4898, 354942, 352  
 355016, 626  
 356323, 1358  
 356835, 2128  
 Ad. 5160, 356835, 2128  
 359073, 2032  
 357473, 2501  
 358079, 348, 349, 597  
 358366, 2602  
 359079, 478  
 359148, 2602  
 360545, 2616,2618  
 360613, 2603  
 360912, 2049  
 361319, 2174  
 361539, 1256,1297  
 361562, 2616  
 361954, 1833  
 362611, 2128  
 362721, 351  
 363058, 2176  
 363090, 1833,1932  
 363519, 2128  
 363592, 1833,2049  
 363846, 2021  
 Ad. 6292, 363846, 2021  
 364222, 2602  
 364414, 2602  
 364690, 1856,2049  
 364804, 2030  
 365297, 2018,2021,2049  
 366106, 2015,2018,2021  
 367026, 2601  
 367057, 2048  
 368004, 1833,1878  
 368738, 352, 598,1697  
 368766, 349, 356  
 369123, 350  
 369797, 2030  
 370132, 1845  
 370224, 1839  
 370249, 1839  
 370354, 2601  
 Ad. 7983, 370354, 2601  
 370741, 361  
 371284, 2603  
 371356, 350, 363  
 371357, 355  
 371358, 356,2501  
 371447, 355, 466, 597,  
 1822,2174  
 371497, 478  
 371544, 1358,2129  
 371985, 2129  
 372018, 2049,2058  
 372512, 1808  
 372524, 2128  
 372538, 2601  
 372539, 2601  
 372540, 2601  
 372599, 2058  
 372888, 2128  
 372889, 2128  
 373994, 354,1697  
 374370, 350, 363,1698,  
 1700  
 374395, 1830,1878,1939  
 Ad. 8760, 374395, 1939  
 374724, 169,1621  
 Ad. 8122, 374724, 1619  
 Ad. 9904, 374724, 1619  
 Ad. 9905, 374724, 1619  
 Ad. 10760, 374724, 1619  
 375092, 1734,2002  
 375429, 2601  
 Ad. 8134, 375429, 2601  
 375739, 2601  
 375741, 2601  
 376262, 362  
 376269, 1806  
 376578, 359, 368  
 Ad. 9194, 376578, 359,  
 368  
 376785, 2129  
 377010, 355, 468,1866  
 377039, 1833,1856  
 377671, 2014  
 378304, 2602  
 379039, 2128  
 379589, 1833,1841,1878  
 379979, 1878  
 381195, 1833  
 382211, 2601  
 382260, 2600  
 382350, 2053  
 382603, 2616  
 383064, 365  
 383412, 2128  
 383478, 1833,2047  
 383636, 360, 375,1858,  
 2025,2237,2282,  
 2306  
 Ad. 10738, 383636, 360,  
 375  
 383902, 376  
 384079, 1815  
 384907, 2128  
 385179, 364,1700,1859  
 385180, 364,1700  
 386017, 1823  
 387054, 2129  
 387179, 1833,1878,1938  
 387325, 2128  
 387537, 2059  
 387621, 1247  
 387791, 1830,1878  
 388097, 2049  
 389284, 2174  
 391499, 2128  
 391826, 2600  
 392092, 364  
 392505, 1833  
 393963, 368, 475,1878  
 394492, 2603  
 395179, 1842  
 396467, 370  
 396664, 2128  
 396814, 2472  
 397092, 2480  
 397429, 370,1833,1878  
 397791, 2129  
 398028, 1830  
 400051, 2603  
 400252, 2603  
 400652, 361,1891  
 401182, 2128  
 401228, 370  
 401856, 1246  
 402028, 369, 376,1856,  
 2049  
 402038, 41

- 402072, 356,1817,1878  
 402083, 374, 388,1927  
 402569, 1909  
 402996, 431  
 403761, 375  
 404028, 2056  
 404886, 2001  
 405293, 362  
 405429, 2390  
 405430, 2174  
 405881, 2594  
 406885, 414  
 407092, 46, 818,2615,  
 2617  
 Ad. 12922, 407092, 46,  
 818  
 Ad. 13035, 407092, 46,  
 818  
 Ad. 18507, 407092, 46,  
 818  
 Ar. 19109, 407092, 46  
 Ar. 19255, 407092, 46  
 407846, 2055  
 407932, 378  
 408370, 374, 383,1866,  
 2018,2025,2174,  
 2363  
 Ad. 12469, 408370, 374,  
 383,1866,2018,  
 2025  
 Ad. 12755, 408370, 374,  
 383,1866,2018  
 408396, 1818,1830,1833  
 409196, 2049  
 409465, 373  
 409557, 587,1868,1888,  
 1983  
 410239, 2030  
 410555, 2128  
 411126, 377,1833,2049  
 411298, 394,1859,1889  
 411592, 1832  
 412503, 394  
 412797, 384, 569,1830,  
 1843,1878,2025  
 Ad. 12388, 412797, 384,  
 2025  
 413442, 2128  
 413571, 2129  
 413657, 391,1687,1878,  
 1896,2035  
 Ad. 148, 413657, 1896  
 413658, 391,1687  
 413671, 390  
 413787, 390  
 413901, 385  
 414679, 391,1681,1687  
 414680, 391,1687  
 414821, 1141  
 415048, 374,2018  
 415517, 421, 469,1878,  
 1901,2027  
 415518, 2026,2028  
 415737, 2047  
 415945, 1830,1878,2049  
 416064, 2128  
 416696, 46, 818,2617  
 416752, 420, 578, 597,  
 2307  
 416806, 376,1968  
 416843, 389,1833,1960  
 417027, 438,2018  
 417250, 383,1819,1833,  
 1842,1866  
 417274, 392  
 Ad. 18345, 417274, 392  
 417319, 346, 402,1833  
 417392, 46,1483,1576,  
 1807  
 Ad. 16144, 417392, 46,  
 1483,1576,1807  
 417599, 376  
 418251, 2594  
 418257, 144  
 418309, 399,1822,1833  
 418347, 375,1816,1833,  
 1878,2032,2033  
 Ad. 15217, 418347, 375,  
 2033  
 418744, 384, 385, 455,  
 1833,1944,2563  
 419530, 385, 453,1833,  
 1866  
 Ad. 13237, 419530, 385,  
 453  
 420127, 393, 404,1909  
 420212, 1833,1878  
 420555, 389  
 420745, 389  
 420856, 386  
 Ad. 13939, 420856, 386  
 420885, 46,2617  
 421010, 377,1866,2049  
 421166, 1873  
 421628, 1286  
 421843, 391,1800,1817,  
 1833,1879,2049  
 421854, 376,1893,2049  
 422542, 389  
 422763, 383,1833,1879  
 422819, 1879,2049  
 423197, 392  
 423774, 387, 442,1687,  
 1833,2049  
 424242, 2128  
 Ad. 14084, 424242, 2128  
 424428, 389  
 424621, 387, 695  
 424820, 1833  
 425057, 1034  
 425900, 396,1879,1913  
 425992, 2129  
 426436, 402, 642  
 427265, 403  
 427445, 390  
 427562, 382,1817  
 427804, 391,1879,2015,  
 2018,2025,2028  
 427818, 394  
 Ad. 14044, 427818, 394  
 428069, 388,1891  
 428468, 1963,2022  
 428554, 393  
 428664, 1935  
 429166, 2057  
 429292, 2600  
 429754, 393,1884  
 429788, 394,1820,1833,  
 1879  
 429827, 2128  
 429934, 2128  
 430403, 2499  
 430440, 1830  
 430606, 396,1700  
 431090, 1833  
 431692, 394  
 Ad. 14580, 431692, 394  
 431711, 1833  
 432046, 396, 408, 409,  
 446, 450, 597  
 Ad. 14558, 432046,  
 396, 408, 466  
 Ad. 14559, 432046,  
 396, 409  
 Ad. 14783, 432046, 396,  
 409, 450  
 Ad. 15894, 432046,  
 396, 409  
 Ad. 15933, 432046,  
 396, 409  
 Ad. 16316, 432046,  
 396, 450  
 Ad. 16494, 432046,  
 396, 450  
 432047, 397, 398,1819,  
 1833  
 Ad. 15719, 432047, 398  
 Ad. 19679, 432047, 398  
 432264, 398, 452, 453,  
 1801,1822,1827,  
 1830,1832,1833,

## France

1859,1860,1863,	443031, 408,1831,1833	455117, 420
1866,1872,1879,	443406, 2616	455811, 432
1882,1888,1896,	443621, 2174	455879, 2128
1913,1924,1926,	444159, 2128	456261, 468,1833,1879
1928,1930,1934,	444588, 413	456729, 1833
1943,1986,1988,	444797, 2498	457925, 424
2003,2046	445135, 424	458036, 2611,2618
Ad. 16854, 432264, 398	445638, 404, 426,1879,	458079, 598
Ad. 19678, 432264, 398	1930	458263, 414, 598
Ad. 19680, 432264, 398,	445770, 414	459006, 587,1800,1982,
453,1888,1988	445798, 417	1984,1986
Ad. 19685, 432264, 398	446270, 1808	459048, 2049
Ad. 19687, 432264, 398	446627, 394	459282, 1259,1263,1282,
Ad. 20264, 432264, 398	447645, 416, 439,1811,	1287
432483, 1833,1879	1833,1879,2023,	459451, 1956
432569, 2128	2559,2608	459539, 452,1805
432747, 404,1381	447664, 1833,1879	459540, 2021
432751, 417	447974, 11, 30, 91,	459972, 11, 21, 416,
433013, 1830	241, 415,1180,	1157,1180,1338,
434602, 2174,2182	2385,2465,2468	1418,1864,1934,
434949, 2129	448072, 409	1940,1950,1952,
435073, 2129	448342, 522	2216
435296, 2499	Ad. 17674, 448342, 522	460915, 415
435417, 1879	448665, 2128	461034, 1822,1879
435507, 401,1733	448808, 1833,1879	461058, 401, 423, 430,
435742, 396, 399,1913	449253, 410, 598,1817,	432, 445,1817,
436087, 2174	2035	1836,1923
436440, 2128	449604, 1869	461121, 425
436538, 403,1879	449605, 1868,1869	461223, 1922
436900, 383,2058	449606, 1868,1869	461539, 427
437240, 399	449607, 1868	461540, 382
437315, 1839	450746, 407,1805,1833	461544, 396, 422,1879,
437411, 384,2058	450886, 375	1959,1961
437473, 384,2058	450890, 414	461734, 1868
437505, 414	450967, 423	461785, 2459
437876, 2616	451420, 448	462147, 1232
438131, 2371	451875, 2465	462274, 22, 426,1431
Ad. 15399, 438131, 2371	451876, 2465	463060, 2616,2618
438448, 342	452154, 2015	463156, 423,1879
438649, 402	452347, 414,2662	463498, 425,2536
439644, 144,2594	452374, 355, 414, 421,	463613, 430
439721, 414, 454,1830,	2662	463622, 432,1879,1923
1833,1910	Ad. 17104, 452374, 355,	464608, 2128
Ad. 16214, 439721, 414,	414, 421	464617, 422, 460,1833,
454	452432, 417,1879,1913	1879,1943,1944
440133, 401,1825,1858	452684, 414	464646, 461,1830,1879,
440445, 1886	453122, 486	1913
440485, 2608	453393, 1719	Ad. 18975, 464646, 461,
440733, 402, 408, 437,	453395, 1703	1913
1982,1985	453406, 1868	465345, 1925
440955, 391,1833,1879,	453464, 375	466009, 420
2015,2028,2059	453564, 1735	466911, 1830
441146, 416,1833,1879	453652, 2174	467303, 144,2594
441551, 2128	453825, 355	467800, 1833,1879
441864, 411	453835, 412, 420, 466,	467991, 2049
442336, 2498	597	468082, 422
442512, 400, 412, 597	454379, 1879	

- 468162, 44, 416,1418,  
 1482,1685,1940  
 468806, 2540  
 468879, 40  
 468963, 497  
 469017, 431,2616,2618  
 469371, 431  
 469694, 2616  
 469872, 1879  
 469925, 422, 468, 556,  
 2046,2054  
 470092, 1879  
 470384, 427  
 470726, 1947  
 470897, 424  
 471104, 556,1800,1884  
 471479, 1135  
 471581, 427, 818,2616,  
 2618  
 472423, 474,1830,1879,  
 1891,1910,1913,  
 1998  
 Ad. 23822, 472323, 474,  
 1998  
 473126, 424, 447, 581  
 473189, 438  
 473382, 2615  
 473399, 427, 428, 467,  
 498  
 Ad. 22587, 473399, 427  
 Ad. 20072, 473399, 428  
 473481, 2128  
 473533, 46,2617,2619,  
 2620  
 473662, 2616,2619  
 Ad. 20258, 473662, 2616  
 473986, 1358  
 474086, 238,1994  
 474793, 247  
 475160, 450, 451  
 475183, 496,1034  
 475299, 2128  
 475338, 437  
 475351, 429  
 475760, 2611  
 476383, 427  
 476852, 238  
 476991, 423,1961  
 477294, 473,1817,1879  
 477344, 2128  
 477493, 2174  
 477620, 428, 483  
 477655, 1621  
 478023, 396, 450, 453  
 478436, 428, 466, 483,  
 598  
 478641, 2128  
 478951, 522  
 479387, 445,1930  
 480606, 1181  
 482239, 443,2502  
 483316, 41, 458,1273,  
 1819,1828,2005,  
 2055,2571  
 483622, 1294  
 484442, 1136  
 485068, 41, 458,2529  
 486195, 41  
 486575, 1612  
 487350, 463, 549,1910  
 Ad. 22415, 487350, 463,  
 549  
 487402, 720  
 487412, 454  
 489037, 460,1951  
 489688, 454  
 491466, 719  
 491490, 484,1805,1879,  
 1998  
 492265, 484  
 492698, 483,1978,2484  
 493211, 441  
 493459, 514  
 493493, 453  
 493541, 483  
 493658, 2661  
 493893, 435,2558  
 494234, 473,1797  
 494300, 1863  
 494453, 452  
 494832, 476, 598  
 495000, 1862,1879,1913,  
 1930  
 495339, 1998  
 495850, 2498  
 496194, 446  
 496526, 41, 446, 459,  
 1760  
 498643, 446  
 498726, 227, 453, 523,  
 1574  
 Ad. 21381, 498726, 227,  
 453,1574  
 498949, 1879,1882  
 499703, 441  
 499868, 1862,1879  
 499993, 579  
 501236, 477,1864  
 501700, 1879,1882  
 501836, 439  
 502218, 487  
 502538, 446,2391  
 503158, 482  
 504323, 513  
 505073, 445, 513,1887  
 505087, 513,2030  
 505438, 443  
 505608, 590, 598  
 506659, 833  
 506706, 484  
 507472, 476, 598  
 508975, 580,1879,2484  
 510356, 443,2396  
 510535, 1984,1986  
 510949, 516  
 511393, 524  
 512649, 578,2307  
 512850, 474,1996,1999  
 514061, 515  
 516461, 579  
 516900, 40,1908  
 517356, 1802  
 517815, 449,1699  
 518087, 519  
 518533, 1256  
 518553, 1297  
 518574, 519  
 519536, 498,1910,1943,  
 1981,1998  
 519721, 492  
 519822, 562  
 519840, 565  
 520070, 1283,1901  
 520101, 69, 129, 506,  
 720,1661  
 Ad. 29866, 520101, 69,  
 1661  
 520319, 1823  
 521000, 46,1576,1807  
 521126, 2617  
 521370, 520,1879,1913,  
 2040  
 521473, 2619  
 521476, 520  
 522613, 40,1432  
 522931, 2662  
 523590, 498,2101  
 523738, 598  
 523931, 44, 205,1414,  
 1420,1425,1537,  
 1538,2662  
 525337, 575  
 525594, 578  
 525738, 578  
 527236, 2619  
 527736, 2029  
 527737, 2029  
 527756, 2029  
 528230, 510,2223  
 528399, 43,2580  
 529173, 557



## France

- 529175, 557  
 529178, 2429  
 529486, 1233  
 529558, 1270  
 530121, 164  
 530440, 524,1913,2007  
 530883, 92  
 530891, 58, 91,1431,  
 1535,1592,1596  
 Ad. 24082, 530891, 58,  
 1432,1535,1592,  
 1596  
 531816, 212, 227, 229,  
 523, 866,2086,  
 2088,2091  
 Ad. 25702, 531816, 229  
 Ad. 36751, 531816, 523,  
 866,2086,2088  
 532145, 559  
 532146, 559,1728  
 532735, 1823  
 532826, 564  
 532908, 568  
 532909, 568  
 532916, 568  
 533295, 1823  
 533296, 1823  
 533575, 1983  
 533579, 1983  
 534494, 2499  
 534778, 82,1420,1484  
 535132, 46, 86,1488,  
 1575,1576,1807  
 535210, 1823  
 535466, 93,1942  
 536188, 60  
 536649, 1234  
 537207, 1297,1980  
 537650, 61  
 538993, 521,2040  
 540872, 1666,2454  
 541643, 569,1961,2565  
 542740, 520,1902  
 542892, 510,2223  
 542940, 510, 511,2242  
 543063, 2499  
 Ad. 29024, 543063, 2499  
 544098, 2488  
 549265, 567  
 549525, 83, 87,1425  
 549568, 84,1224,1428,  
 1663,1675  
 549806, 2617  
 549807, 2617  
 549880, 59,1432  
 550142, 490  
 Ad. 25779, 550142, 490  
 552769, 86,2224  
 552770, 85,1426,2465  
 552771, 82,1424  
 553547, 1816,1830,1916  
 555279, 100,1337,1453,  
 1486,1607  
 555769, 1278  
 556781, 87,2071  
 558258, 70  
 558900, 495,2306  
 Ad. 29098, 558900, 495,  
 2306  
 558917, 62,1584,2225  
 560777, 2492  
 561588, 101, 212, 227,  
 2091,2093  
 562056, 1879  
 562320, 2030  
 562667, 43,1374  
 563443, 1274  
 563475, 2488  
 Ad. 27985, 563475, 2488  
 563785, 103,1698,2146  
 564731, 2491  
 565654, 522, 598  
 566041, 1269  
 566124, 1704  
 566383, 212  
 566385, 101, 138, 227,  
 2089,2091,2111,  
 2112  
 567694, 2498  
 568600, 596  
 568655, 143, 299,2211,  
 2266,2298  
 Ad. 27953, 568655, 2211  
 Ad. 31071, 568655, 2211  
 Ad. 33247, 568655, 143,  
 2211  
 568840, 1297,1980  
 569642, 129, 720  
 570264, 538,2120  
 571264, 779,2244  
 Ad. 33853, 571264, 779,  
 2244  
 571730, 579  
 572562, 2498  
 573639, 2498  
 573701, 562  
 573739, 598  
 574626, 581  
 574800, 1267  
 574947, 274  
 575403, 2498  
 575404, 2498  
 575853, 585  
 578690, 239  
 580882, 1830,1879  
 580883, 1879  
 581160, 122, 240, 242,  
 579,1657,1716,  
 1741  
 581177, 1965  
 581651, 569  
 586582, 1823  
 587063, 2496  
 587064, 2496  
 587486, 100,1464,1833,  
 1834  
 587570, 502,2271  
 588171, 2498  
 588258, 2529  
 588573, 2492  
 588746, 2492  
 588903, 596,2558  
 Ad. 33596, 588903, 596  
 589732, 97  
 589745, 546,2258  
 590572, 2499  
 590733, 643,2232  
 590738, 726,2232  
 591708, 251, 643,2260  
 591753, 1268  
 592423, 69, 97,1446  
 593091, 835  
 Ad. 33971, 593091, 835  
 593338, 975  
 594925, 724  
 595155, 1830  
 595208, 703,2544  
 595759, 2285  
 Ad. 36013, 595759, 632,  
 2285  
 596749, 2488  
 Ad. 29989, 596749, 2488  
 596802, 598,1700  
 596838, 1830,1853,1879  
 597132, 1842  
 597394, 129, 160,2230  
 Ad. 39297, 597922,2661  
 598081, 130,2099  
 598715, 1928  
 599112, 2491  
 593102, 635,2088  
 599335, 2498  
 599834, 818,2617  
 600106, 596,2257,2276  
 600178, 1834,1853  
 601156, 628  
 601221, 720  
 601297, 632, 773,1561,  
 2172  
 601546, 624, 702,1833

- 601547, 624, 702,1833,  
1879  
601662, 1833,1879  
602603, 608  
603123, 684,2238  
603384, 2498  
603710, 673,2263  
603712, 686  
603791, 102, 593,1362  
603921, 640,2270  
604786, 2200  
Ad. 31830, 604786, 2200  
605085, 617,1851  
605127, 592, 723,2285,  
2306  
605208, 706  
605770, 618,2439  
606536, 111,2569  
606543, 126,2526  
606763, 620,1854,2393  
606969, 126,1575,1898  
607465, 102,1578  
609483, 110,2343  
610539, 671,2306  
611004, 2257  
611136, 702,2507  
611137, 702,2507  
611401, 623,2462  
611899, 649,1879,1913,  
2392  
612414, 126,1898  
612937, 127  
613055, 2498  
613056, 2498  
613647, 631,2313  
613841, 632  
613983, 620  
615301, 2327  
Ad. 32658, 615301, 641,  
2327  
615349, 93,1546  
615365, 2498  
615876, 117, 118, 237,  
1347,2454,2455,  
2575  
Ad. 35939, 615876, 117,  
237,2455,2575  
615879, 719  
615906, 773  
615907, 773  
617497, 1915  
617600, 708,2104  
617655, 773,2172  
617929, 630,2504  
619329, 674, 722,2264,  
2277  
619395, 719  
619555, 790  
Ad. 34853, 619555, 790  
619764, 129, 238  
Ad. 33001, 619764, 129  
619861, 240  
620594, 975  
621316, 105, 110, 229,  
2145,2176  
621376, 721,1408,2213  
621377, 721  
621380, 624,2156  
621616, 790  
Ad. 34615, 621616, 790  
622074, 594,1824  
622680, 719  
622733, 129,2582  
Ad. 33066, 622733, 129,  
2582  
623448, 2177  
623554, 2185  
623665, 975  
623761, 610,2282  
Ad. 33009, 623761, 610,  
2282  
624174, 1236  
Ad. 38047, 624174, 1236  
Ad. 38872, 624174, 1236  
Ad. 38915, 624174, 1236  
624278, 126,2526  
625165, 147,2174  
626117, 236,2546  
Ad. 35190, 626117, 236,  
2546  
627071, 144,2267  
Ad. 32949, 627071, 144,  
637,2267  
Ad. 35560, 627071, 144,  
2267  
627072, 142, 144,1587,  
2267,2287,2295  
Ad. 32948, 627072, 142,  
1587,2267,2287,  
2295  
627427, 608  
628734, 872  
Ad. 37009, 628734, 872  
629097, 156,2262  
629099, 197, 228,1399  
Ad. 37753, 629099, 197,  
1399  
629291, 645,2435  
629861, 122,1654,1657,  
1711,1741  
Ad. 34859, 629861, 122,  
1654,1673,1711  
631344, 109,2041,2089  
632339, 631  
632614, 631  
632615, 631  
632616, 103,1432  
632619, 730  
632636, 626  
632712, 1155  
632887, 114, 157,2277  
633626, 615,2559  
633790, 703,2605  
633812, 675,2245  
633817, 667, 668, 977  
633856, 632,1048  
Ad. 39763, 633856, 1048  
633957, 108,2100  
634165, 110, 132, 141,  
168, 229, 635,  
1584,2149,2153,  
2155,2176,2398  
Ad. 34391, 634165, 132,  
141, 229,2155,  
2176  
634036, 675,2261  
634165, 2217  
Ad. 34391, 634165, 2217  
Ad. 35947, 634165, 168,  
2149  
634167, 770, 771  
Ad. 36811, 634167, 777,  
Ad. 37089, 634167, 771,  
634202, 724  
634345, 141,2520  
634457, 156,2572  
634466, 625  
634620, 676,2256  
634641, 624,2149  
635028, 630,2354  
635054, 122,2261  
635219, 605  
635281, 120,1669,2520  
635304, 619, 758,2331  
Ad. 36592, 635304, 758  
635396, 635  
635963, 666  
636057, 127, 229,2176,  
2298  
636058, 104, 229  
636090, 2187  
Ad. 35451, 636090, 2187  
636272, 631  
636396, 699  
636608, 105, 765,2203,  
2382  
Ad. 36860, 636608, 765,  
2382  
636781, 662  
636905, 160,2535  
637012, 117,2505

## France

- 637113, 103, 141,2518  
 637129, 620  
 637309, 2182  
 637389, 721  
 637468, 635,2193  
 637517, 716  
 637763, 633,1031  
 Ad. 38770, 637763, 1031  
 Ad. 38900, 637763, 1031  
 637764, 106,2220  
 637765, 106  
 638121, 1947  
 638138, 122,2295  
 638248, 635,2155  
 638431, 640  
 638448, 2661  
 638795, 2197  
 638896, 170, 597,2085  
 638897, 598  
 638899, 133,2083  
 638900, 598, 846  
 638902, 598  
 638903, 598  
 638909, 1154  
 639112, 724, 835,1016  
 639119, 669,1408  
 639150, 118, 123,1439  
 639196, 158,2157  
 Ad. 35500, 639196, 158, 2157  
 639197, 2334  
 Ad. 34071, 639197, 2334  
 639818, 674,2265  
 639825, 608,2296  
 640013, 2270  
 640174, 150,1436  
 640364, 1993  
 640446, 162,2190  
 640644, 2186,2187  
 Ad. 34041, 640644, 2186  
 640687, 123, 253,1602, 1682  
 640721, 669  
 640746, 148,2262  
 641043, 123, 253,1756  
 641277, 1154  
 641406, 666  
 641675, 719,2274  
 641832, 121,2256  
 641886, 1246  
 641901, 1246  
 642176, 1240,2528  
 642220, 151,2035  
 642329, 634  
 642330, 607,2211  
 642331, 110, 229, 632, 1584,2154,2155, 2176  
 642473, 141,2221  
 642628, 105,2148  
 642706, 642  
 642799, 151,2417  
 642909, 696  
 642991, 121  
 Ad. 37282, 642991, 121  
 643058, 105,2342  
 643114, 626  
 643323, 141, 229,2176, 2221  
 643413, 236,2547  
 643438, 816  
 643884, 162,1579,1898, 1902  
 643902, 1243  
 643903, 1234  
 644011, 731,2020  
 644430, 601,2439  
 644436, 2301  
 Ad. 34611, 644436, 2301  
 644480, 149,1711  
 Ad. 36578, 644480, 149  
 Ad. 38195, 644480, 1711  
 644565, 113, 229,1587, 2155,2176  
 644636, 1711,1714  
 Ad. 35460, 644636, 1711  
 644935, 134,2569  
 644936, 144,2152,2156  
 644937, 142, 229,2153, 2176  
 644985, 134,2192  
 645110, 688  
 645111, 688,2587  
 645335, 236,2547  
 645358, 721  
 645912, 165,2525  
 645967, 671, 781  
 646371, 196,2265,2295  
 646666, 1875  
 646719, 722  
 647013, 146,2178  
 647227, 769  
 647330, 1972  
 647682, 667, 782  
 647865, 165,2318  
 648026, 1753  
 648137, 137,2519  
 648152, 164,1578,2525  
 648154, 153,1670,1717, 2159,2575  
 Ad. 35906, 648154, 153, 1670,1717,2159  
 648397, 160,2112  
 648508, 2180  
 648990, 144,2594  
 649019, 999,2619  
 649121, 832  
 Ad. 36953, 649121, 832  
 649384, 1872,1905  
 649576, 667  
 649623, 797, 839  
 650432, 819,1905  
 650814, 1905  
 650973, 283,1856  
 651196, 737  
 651522, 832  
 651528, 830,1009  
 Ad. 34574, 651528, 830  
 Ad. 34691, 651528, 830  
 Ad. 35750, 651528, 830  
 Ad. 37269, 651528, 830, 1009  
 651588, 2091  
 651728, 800  
 651934, 2270,2322  
 652078, 761  
 652360, 1155  
 652383, 1614  
 652410, 1905,1971  
 Ad. 37088, 652410, 1971  
 652820, 667, 782,1005  
 653025, 1990  
 653297, 199,1797  
 653555, 2237  
 653583, 199,1797  
 653701, 2265  
 653742, 758,1737,1740  
 653880, 817,2442  
 654062, 168, 212, 227, 1031,2078,2088, 2088,2091,2093  
 Ad. 39394, 654062, 1031, 2088,2093  
 654238, 847,2396  
 655034, 816  
 655167, 198,2246  
 655281, 1970  
 655435, 210,2189  
 655803, 807,1728,1737  
 Ad. 35292, 655803, 807  
 655948, 161,2296  
 656057, 165,2274  
 656151, 194  
 656204, 1955  
 656431, 2268  
 656466, 134,2324  
 656654, 1397  
 656821, 884  
 656861, 280,1435  
 656901, 769, 770  
 Ad. 36747, 656901, 769

- 656902, 769  
 656931, 2284  
 656995, 195,2220  
 657003, 184,2317  
 657027, 671, 781  
 657204, 1680,1681  
 657333, 844,2588  
 657423, 768  
 657604, 769, 770  
 657764, 774,2028,2087  
 657812, 662  
 658111, 770  
 658324, 781  
 658415, 777,2270  
 658563, 906,2586,2589  
 Ad. 36863, 658563, 906,  
 2589  
 658826, 2112  
 658960, 836  
 659026, 2270  
 659116, 151, 787,2047  
 659141, 147,1897  
 659163, 790  
 659387, 165,2524  
 660022, 738,2345  
 660352, 722  
 660357, 206  
 660365, 204,2113  
 660376, 846  
 660377, 846  
 660393, 846,1410  
 660394, 846  
 660411, 846  
 660510, 201,1665,1666,  
 1966,2423  
 660576, 881,2246  
 660623, 229, 773, 866,  
 1031  
 Ad. 39344, 660623, 1031  
 Ad. 36175, 660623, 229,  
 773, 866  
 660794, 799  
 660804, 791,2159  
 660877, 835,1905  
 660924, 819  
 660925, 819  
 660935, 1817,1824  
 Ad. 35669, 660935, 1817,  
 1824  
 661039, 201,1670  
 661059, 238  
 661343, 839  
 661354, 1165  
 661435, 201,1718  
 661686, 2268  
 661810, 228, 774,2091,  
 2111  
 661935, 839  
 661936, 774, 778,2147,  
 2309  
 661964, 817  
 661992, 817,2121  
 662243, 843,2317  
 662265, 847,1411  
 662353, 785,2159  
 662384, 803  
 662391, 835  
 662402, 836  
 662456, 2268  
 662603, 194,2054  
 662624, 787  
 662721, 169,1941  
 662790, 838  
 662816, 820,2585  
 663053, 757,2224  
 663207, 2311  
 663268, 812  
 663861, 2488  
 664064, 776,2118,2191,  
 2195,2365  
 664065, 776,2191,2195,  
 2365  
 664214, 783, 784  
 664416, 293,1428  
 Ad. 35752, 664416, 293,  
 1428  
 664459, 783, 787,1036,  
 1739  
 Ad. 34916, 664459,1036  
 Ad. 37820, 664459, 787  
 Ad. 38819, 664459, 1036  
 664588, 846  
 664674, 773, 866  
 664770, 789,1711  
 664888, 303,2464  
 664932, 185,1340,1700  
 665138, 1824  
 665412, 782  
 666084, 755  
 666342, 859  
 666352, 831  
 666396, 846,2585  
 666398, 765  
 666463, 790,2301,2319  
 666507, 787, 790, 881,  
 2301  
 Ad. 36398, 666507, 787,  
 881,2301  
 666626, 227,2253,2305  
 666630, 755  
 666867, 2090  
 Ad. 38124, 666867, 2090  
 666896, 773, 866,1031  
 Ad. 39019, 666896, 1031  
 666897, 186, 775  
 Ad. 40247, 666897,2661  
 Ad. 38124, 666897, 186  
 666898, 227, 775,2364  
 667031, 829  
 667167, 777,2307,2268  
 667205, 790,1717  
 667208, 770  
 667209, 227, 776,2118,  
 2365  
 667210, 778  
 667211, 186, 778,2346  
 667253, 840,2534  
 667292, 771  
 667307, 212,1452  
 667412, 868  
 667415, 777,2255  
 667498, 769  
 667499, 769  
 667500, 769  
 667553, 769  
 667556, 806,1740  
 667557, 806,1711,1740  
 667792, 820,2566  
 667942, 212,2598  
 667978, 838  
 667983, 195, 198,2283  
 Ad. 38447, 667983, 2283  
 667990, 834  
 667991, 834  
 668028, 825  
 668048, 1715  
 668123, 166,2404  
 668124, 837,2566  
 668125, 837,1884,2393  
 668142, 193  
 668219, 769, 771  
 668369, 206, 814,2213,  
 2505  
 668629, 782  
 668638, 2241  
 668686, 200, 238, 789,  
 878,1716,1739  
 668864, 777, 778,2307  
 668904, 755  
 668907, 193,1347,2545  
 668935, 829, 830  
 Ad. 37056, 668935, 830  
 669048, 789  
 669150, 735, 843  
 669178, 783  
 669247, 774,2309  
 669256, 194, 240,1450,  
 1451,1591,1625  
 669278, 788,2399  
 669309, 781,2099  
 669423, 1939

## France

- 669612, 245,2462  
 669686,2184  
 Ad. 37800, 669686, 2174  
 670190, 189  
 670191, 189  
 670192, 189  
 670193, 189  
 670194, 189, 795,1561  
 670195, 189  
 670196, 189  
 670235, 824,2604  
 670285, 832  
 670620, 795  
 670621, 795  
 670659, 737  
 670762, 193,1573,2418  
 670841, 736,2559  
 671053, 790,1718  
 671103, 187,1694,1700  
 671110, 191,1653  
 671158, 1990  
 671283, 626, 762  
 671285, 781  
 671346, 186  
 671418, 818  
 671482, 830  
 671683, 185,2471  
 671859, 771  
 671921, 187,1694,1700,  
 2090  
 Ad. 36814, 671921, 187  
 672149, 1030  
 672161, 824  
 672217, 198,2184  
 Ad. 39168, 672217, 2184  
 672220, 834,1695  
 672235, 187,1699,1724  
 672301, 235, 786, 981,  
 2103,2131  
 672306, 226, 774,2090  
 672517, 206  
 672808, 1231  
 672962, 169,2086  
 673029, 224, 764,1352,  
 1365,1558,2561  
 673030, 224,1365  
 673117, 2278  
 673483, 764  
 673544, 764  
 673996, 787,2125  
 674118, 194,1897  
 674268, 233, 786,2095  
 674269, 233, 786,2096  
 674377, 228  
 674391, 251,2367  
 674392, 833  
 674478, 784  
 674526, 2300  
 674761, 784, 786,1797,  
 2221  
 674988, 770  
 675045, 239,2303  
 675086, 140,1363,1558  
 675288, 782  
 675354, 773,1408,1409  
 Ad. 36935, 675354, 773,  
 1408  
 675465, 227,2253  
 675466, 777,2153  
 675635, 201  
 675745, 227, 453,1574,  
 1838,2570  
 675817, 771  
 675818, 771  
 675819, 771  
 675947, 839  
 676127, 775,2165  
 676344, 239,1485  
 676631, 834  
 676658, 882,2105  
 676728, 224,2090  
 676756, 293,1428  
 676830, 175,2347  
 677204, 807,2368  
 677253, 294  
 677262, 774,2309  
 677263, 108, 227,2082,  
 2183  
 677389, 735,2588  
 677404, 2586  
 677461, 212, 229, 775,  
 2093  
 677462, 774  
 677479, 215  
 677493, 831  
 677494, 831,2314  
 677663, 235,2103  
 677673, 2176  
 677745, 252,1453  
 677749, 1165  
 677853, 814  
 677854, 814  
 677882, 772  
 677927, 224, 764,1433  
 678254, 790,1718  
 678314, 960,2091  
 678320, 789,1719  
 678399, 776,2195  
 678400, 101, 227,2364  
 678459, 191,2529  
 678837, 1179  
 678901, 787,2319  
 679149, 293,1428  
 679185, 171, 738,2451  
 679186, 171,2451  
 679280, 2263  
 679284, 779,1434  
 679326, 2176  
 679418, 830  
 679429, 766,2307  
 679440, 223,2452  
 679442, 830, 905  
 679488, 2255  
 679489, 778,2286  
 679607, 2598  
 679615, 209,2405  
 679618, 775, 960,2091,  
 2111  
 Ad. 39238, 679618, 2111  
 679607, 238  
 679744, 2179  
 680022, 869,2606  
 680173, 204,2103  
 680385, 781  
 680492, 2175  
 680493, 2175  
 680860, 787, 981,2398  
 680877, 238  
 680956, 250,1612,1664,  
 1746  
 681038, 2118  
 681039, 2584  
 681060, 767,2179  
 681143, 783,1036  
 Ad. 39276, 681143, 1036  
 681156, 208,1954,2084  
 681177, 2016  
 681301, 786,2080  
 681317, 228,2091,2118  
 Ad. 39410, 681317, 2118  
 681429, 251,2132  
 681437, 806  
 681529, 228,2091  
 681566, 251  
 681677, 236,2546  
 681696, 786,2158  
 681754, 791, 979,1032  
 Ad. 38797, 681754, 1063  
 Ad. 38797, 681754, 2661  
 681759, 228,2091  
 681806, 2190  
 681958, 834  
 Ad. 36719, 681958, 834  
 Ad. 37720, 681958, 834  
 682060, 764  
 682084, 784,2080  
 682202, 777,2255  
 682268, 2224  
 682332, 245,1542  
 682540, 236,2547  
 682841, 1009,2249

- 682912, 785,2080  
683075, 1999  
683076, 227,1353,2090  
683088, 997  
683118, 251,2275  
683251, 248, 997,1363  
683290, 1983  
683418, 249,1581,1901,  
2538  
683462, 2087  
Ad. 39211, 683462, 2087  
683463, 866,2079  
Ad. 37857, 683463, 866,  
2079  
Ad. 38175, 683463, 2079  
683688, 237  
683728, 245,1347,1988,  
2206  
683815, 756  
683955, 831,1010,2249,  
2251  
684144, 765,2078  
684183, 250,1639  
684273, 833,1700  
684274, 833  
684330, 238,1605  
684417, 982,2247  
684550, 906,1727  
Ad. 37606, 684550, 906  
684759, 833,1728  
685162, 236,1576,1676,  
2565  
685163, 234, 240,1577,  
1971,2419,2426  
685277, 774  
685333, 228,1746  
685351, 825,2244  
685637, 833  
685712, 980  
685795, 995,2529  
685913, 806  
685956, 2228  
685977, 228,2091  
685978, 228,2091  
685979, 228,2091  
685980, 228,2091  
685994, 171, 738,2451  
686012, 805  
686019, 805  
686027, 160  
686055, 796  
686330, 274,2184  
686332, 764  
686381, 245,2462  
686401, 806  
686428, 244,2278  
686491, 838, 915,1018  
686492, 838,1018  
686575, 250,1639,1664,  
1747,1758,2628  
Ad. 39740, 686575, 2628  
686598, 239, 241,1397,  
1607,2468  
686644, 197, 305, 776,  
1076,1576,2172,  
2188,2196  
Ad. 37856, 686644, 197,  
2172,2188  
Ad. 37906, 686644, 305,  
1576,2196  
Ad. 39564, 686644, 1076  
686906, 832,1702  
Ad. 38980, 686906, 832,  
1702  
686922, 785,2159  
687039, 2248  
687084, 806  
687119, 234, 239, 240,  
1486,1577,2419,  
2426  
687169, 832,1702,1739  
687265, 2347  
687298, 2643  
687299, 1010,2249,2250  
687301, 250,1009,1612,  
1744  
687307, 1816  
687400, 2093  
687471, 775,2079  
687597, 244,1945,1970  
687627, 878, 979,2105  
687702, 880,2441  
687789, 876, 976  
687855, 1270  
687996, 887, 987,1738  
688074, 1068  
688200, 209,2525  
688315, 124, 239,1876,  
1971,2420  
688417, 912  
688601, 886,1741  
688623, 962,2270  
688624, 962,2270,2294  
688625, 274, 866,2121,  
2184  
688755, 228,2305  
688884, 906,2589  
689007, 880,2350  
689134, 860,1030,1464  
Ad. 39061, 689134, 1030  
689200, 886  
689244, 906  
689291, 1171  
689462, 238  
689557, 250,1612,1743  
689733, 850  
689800, 108, 229,2082,  
2135,2176  
689984, 215,2384  
689991, 991  
690115, 886,1741  
690215, 245  
690216, 1545  
690406, 860,2543  
690432, 229,2191  
Ad. 38319, 690432,2191,  
2661  
690458, 887,1738  
690767, 1816  
690772, 866,2086  
690795, 870,2178  
690803, 906,2589  
690987, 246  
691031, 878,1739  
691216, 238  
691337, 907  
691728, 232,1578,2546  
692051, 1068  
692106, 907  
692365, 887  
692400, 916,2538  
692537, 863  
692603, 1671  
692604, 2661  
692734, 275  
692735, 863  
692790, 1270  
692796, 866  
692927, 859,2258  
693014, 894,1407  
693131, 887  
693132, 887  
693133, 887  
693189, 887  
693240, 866,2135  
693318, 171,1550  
693411, 2187  
693483, 864  
693496, 880,1897  
693568, 904  
693569, 904  
693803, 894,2158  
693919, 895,2588  
694016, 883  
694048, 866,2079  
694054, 1823  
694074, 249,2415  
694119, 866,1383,2079  
694382, 873  
694696, 1385  
694749, 2269

## France

694750, 933,2269	699888, 866	702979, 960,2093
694879, 861,2307	699933, 865	703002, 2189
694881, 229,2145	700004, 761,2281	703003, 989
695283, 284,1656	700074, 984	703018, 1960
695323, 237,1340,1489,	700165, 875,1701	703090, 2326
1601,1654	700239, 281,2266	703114, 2076
695371, 861,2506	700345, 882	703118, 983,2248
695401, 915	700477, 268,1599,2195	703338, 301,1450
695490, 908,2198	700478, 943,1411	703509, 1875
695491, 908,2198	Ad. 38582, 700478, 943,	703626, 274,2156,2179
695588, 1944	1411	Ad. 39164, 703626, 2156
695724, 889	700534, 293,1428	703650, 272,1725
695843, 229,2374	700535, 293,1428,1641	703765, 973
695844, 229,2374	700545, 293,1428	703816, 977
695969, 863, 864	700568, 865	704145, 1801
695981, 761,2281	700569, 864	704280, 273,1398,1753
696026, 881	700680, 880, 981,1899,	704281, 960
696100, 884	1901	704499, 268,2476
696154, 849	700709, 1246	704564, 962,1372
696158, 245,1441	700711, 274,2137	704664, 988
696306, 912,2101	700774, 832	704862, 284,2579
Ad. 40105, 696306, 912	Ad. 38577, 700774, 832	704871, 273,1382
696523, 868	700850, 258	Ad. 39246, 704871, 1382
696530, 849	700851, 258	Ad. 39247, 704871, 1382
696603, 908,2414	700852, 258	704872, 273,1726,1736
696711, 883	700876, 272,1584,2375	704880, 1065
696803, 905	700880, 1385,1614,2625	705159, 2335
696865, 908,2334	Ad. 39765, 700880, 2625	705161, 962,2254
697149, 997,2437	Ad. 40124, 700880, 1614	705309, 1010
697156, 1385	701145, 895	705359, 299,2217
697329, 879,2365	701269, 272, 867,1584,	705545, 927
697427, 960,2091	2373,2375	705546, 1011
697471, 888	701353, 294,2552	705638, 2139
697541, 299,1088,2298	701372, 962,2270	705639, 1902
697683, 900	701852, 964,2325	705662, 1001
697725, 263,2091	701868, 983,2138	705732, 1456
697814, 270,1582,2076	701875, 960	705816, 1657
697896, 866	702012, 961	705851, 977
698093, 1383	702116, 986,1012	706130, 2162
698094, 866	Ad. 40228, 702116, 1012	706216, 1012
698098, 916	702174, 274,1383,2184,	706319, 1905
698258, 909,2532	2520,2632	706620, 961,2222
698269, 271,2242	Ad. 39028, 702174, 2520,	706638, 2139
698321, 258,1904	2632	706670, 961,2318
698392, 283,1656,1856	702209, 272,1584,2375	706685, 2139
698418, 271,2205	702210, 272,1584,2180,	707092, 2429
698548, 926	2375	707154, 1954
698689, 806	702272, 1261	707250, 2335
698800, 276,2528	702349, 1814	707330, 1013,2176
698801, 276,2528	702353, 275,2154,2331	707473, 988
698907, 876, 977,1049	702361, 1823	707593, 1012,1969
Ad. 39574, 698907, 1049	702431, 2107	707688, 990
699217, 878,1494,1708,	702446, 1018	707700, 979
1712	702509, 960	707835, 926
699256, 880	702624, 2530	708084, 1012
699807, 887	702628, 2115	708111, 1012
699828, 865	702964, 2151	708160, 2243

708181, 1548,2622	713635, 2220,2324	718689, 1994,2396
708538, 1386,1389,1658	713684, 821	718725, 2163,2351
708539, 922	713698, 923	718919, 1965
708638, 1028	713699, 1434	718943, 1261
708652, 2114	713700, 1434,1749	719146, 2102,2530
708673, 991	713702, 2570	719266, 1092
708761, 2098	713845, 1032	719338, 1385
708906, 926	713846, 1838	719340, 1641,1643
708945, 1745	713847, 1031,1838,2087,	719341, 2168
709111, 2255	2090,2103	719342, 2168
709122, 1388,1745	713848, 1090	719400, 1169
709141, 1810	713857, 1383	719569, 2097
709150, 1026	713908, 993,2222	719703,2354
709195, 2408,2477	714061, 1745	720027, 1060
709229, 1171	714062, 1032	720038, 2178
709431, 2141	714124, 2187	720683, 1046
709662, 989	714274, 2530	720866, 1080
709779, 1009,2275	714488, 1458	720867, 2135
709958, 948,1736	714767, 1032	721095, 2596
710004, 1029	714837, 1945,1982,2409	721359, 2433
710135, 2376	714995, 1066	721694, 2437
710299, 1024,2196	715047, 1013,2334	722566, 2596
710304, 1039	715130, 1036,2484	722631, 2093,2111
710323, 2301	715183, 2215,2354	722719, 1003,2367
710337, 977	715184, 2180	722851, 1032
710345, 268,2103,2476,	715185, 2337	722866, 1092
2480	715538, 1037	723016, 1033
710451, 1028	715549, 1032	723017, 1546
710485, 1240	715661, 1425	723856, 1069
710498, 2136,2140	715684, 2595	724002, 1078
710640, 1031	715822, 1155	724045, 2642
710778, 2111	715914, 2585	724584, 2623
710822, 1036	715930, 2337	724726, 1081
710879, 1019	715998, 2338	724803, 1048
711017, 994	716208, 2224	724957, 1058
711085, 1870	716317, 1039	725003, 1069
711134, 2596	716448, 1032	725047, 1083
711295, 1031	716449, 2529	725069, 1089,2643
711513, 2641	717066, 1096	725073, 1077
711536, 2116	717083, 1059	725219, 2606
711645, 1087	717152, 1049	725266, 1068
711668, 1589,2086	717419, 1075	725385, 2111
712143, 2102	717449, 2185,2197,2502	725421, 2111
712209, 2305	717453, 277	725721, 1072
712260, 1170	717524, 1647,1665	725908, 1060
712590, 1994	717554, 1081	725935, 2627
712727, 2442	717623, 1441,1656,1679,	726030, 1074
712856, 1026	1688,1739	726220, 1084
712967, 1012	717886, 1972	726301, 1075
713183, 2215	717998, 1070	726362, 1066
713184, 1031,1032,2093,	718018, 2632	726619, 1089
2307	718019, 2632	727055, 1079
713342, 1032	718089, 1088	727303, 2637
713346, 2120	718257, 1065	727309, 2625
713467, 821	718472, 1060	727336, 2637
713576, 1026	718542, 2578	727461, 1085
713602, 1018	718529, 1060	727735, 1059



## France

728344, 1062  
 728348, 1075  
 728504, 1050  
 728659, 2634  
 728785, 1060  
 728815, 2634  
 728926, 2633  
 729473, 1094  
 730725, 2646  
 740951, 1583  
 752699, 1060

## GERMANY

## Applications

25173, 496

28933, 439

28934, 439

34110, 439

A 12478, 352

A 19635, 410

A 25155, 429

B 63482, 413

B 64397, 402

B 65360, 413

B 66376, 408, 1985

B 68616, 416, 1811

B 75886, 402

B 87081, 442

B 88993, 441

B 90474, 438

C 12963, 345, 1263

C 21388, 414

C 21994, 414

C 22781, 421

C 22873, 444

C 23460, 422

C 23612, 444

C 26778, 444

C 26780, 444

C 26786, 444

C 26939, 444

C 27198, 445

C 27590, 444

C 27801, 455

C 37609, 623, 2200

D 9221, 328

D 9431, 328

D 18204, 361

D 18317, 361

D 19112, 361

D 19113, 361

D 19374, 361

D 23457, 390

D 23476, 393

D 23640, 361

D 24819, 390

D 25442, 396

D 29058, 424

D 29439, 398

D 29692, 425

E 14630, 384

E 17505, 399

E 20963, 349

F 12687, 333

F 12688, 333

F 15278, 439

F 15279, 335

F 16871, 336, 1380

F 20963, 348

F 22850, 371

F 28111, 383, 1866

F 28233, 439

F 29005, 439

F 29131, 405

F 29595, 390

F 32321, 405

F 32472, 405

F 32828, 439

F 32918, 405

F 42207, 530

F 42400, 458

G 47759, 459

H 53315, 333

H 57941, 417

H 67436, 429, 460

I 14379, 417

K 33975, 412

K 47775, 412

K 48490, 400

K 48966, 400

K 48996, 394

K 50333, 420

K 50334, 412

K 52789, 400

L 15737, 339

L 20597, 411

L 21238, 349

L 21824, 411

L 21855, 337

L 23161, 356

L 26357, 411

L 28615, 411

L 30386, 389

L 30568, 411

L 32835, 394

L 36336, 422

L 40426, 473

L 40529, 422

M 28289, 348, 349

M 39103, 391

M 42410, 420

P 31300, 425

R 32631, 405

R 47445, 378

S 22257, 365

S 31390, 389

S 32783, 400

S 36018, 1233

S 37509, 417

S 39408, 428

S 42073, 430

S 42494, 428

S 52355, 578

S 94825, 1011

Sch 36144, 383

St 9000, 345

St 19374, 408

V 7117, 2174

V 9653, 387

V 11079, 413

V 11816, 424

V 59130, 1019

W 15730, 332

W 30446, 409

W 30500, 409

W 34372, 409

W 36069, 399

W 38008, 409

W 39709, 409

Z 11159, 489

Jan. 9, 1909, 394

June 8, 1910, 396

Jan. 2, 1912, 414

## Patents

690, 1562

4829, 2002

6051, 1808

7784, 1808

10210, 1803, 1814, 1833,

2049

10232, 2002

10789, 1803, 1833, 2049

26014, 2002

27031, 1833

27658, 2607

32874, 2619

36705, 2002

38368, 2174

41507, 1923

44041, 2003

45712, 2002

46756, 1966

53078, 1911

53296, 1908, 2003

55293, 354

56946, 2003

57941, 1966

58133, 2458

58508, 2045

- 62159, 2045  
 62533, 2174  
 64031, 1133  
 66055, 2045  
 67912, 2606  
 68356, 1930, 1949, 2049  
 69231, 563  
 70999, 2174  
 71204, 2606  
 72969, 2458  
 73377, 127  
 74070, 2002  
 74855, 1562  
 75896, 2174  
 77278, 1257, 1278  
 77826, 1140  
 80776, 94, 1830, 1878,  
 2014, 2015, 2021,  
 2049  
 81664, 2058  
 81805, 2002  
 81963, 1025  
 82111, 2174  
 82112, 2174  
 82555, 2174  
 82653, 2174  
 83399, 1279  
 84146, 1842  
 85329, 322, 328  
 85490, 1942  
 86368, 324, 328  
 86740, 1830, 1883, 2049  
 88442, 2611  
 88681, 2458  
 91819, 1842  
 93009, 1833, 1893  
 92259, 1618  
 93009, 242, 2003  
 93111, 1297  
 93228, 2005  
 93351, 2005  
 94282, 1618  
 94628, 1618  
 96365, 2056  
 99378, 1618  
 99875, 2003  
 100522, 2002  
 100523, 2002  
 102634, 1257  
 103726, 1878, 2056  
 105347, 1700, 2002  
 106334, 2045  
 106576, 2540  
 107050, 2458  
 108402, 2045  
 110289, 2128  
 112517, 2600  
 112817, 328, 1697, 1700,  
 1702, 1842  
 113114, 818, 2616  
 113239, 1257, 1287  
 113566, 2056  
 113786, 1796  
 114278, 2057  
 114400, 2045  
 115466, 2602  
 115594, 486  
 115681, 2057  
 117051, 2002  
 117167, 2294  
 117349, 2002, 2032  
 117461, 2174  
 117542, 1807  
 117625, 1906  
 117896, 486  
 118052, 1830, 1928, 1961  
 118538, 332, 333  
 119118, 2611, 2618  
 119636, 1928, 1942, 1991  
 119687, 2541  
 120201, 2004  
 120713, 332, 333  
 120864, 1906  
 120865, 1906  
 122096, 1906  
 122166, 1888  
 122272, 1828, 1977, 2025,  
 2033, 2043  
 123121, 333  
 132122, 333  
 124752, 2602  
 125098, 2006  
 125309, 2174  
 125315, 1844, 1961, 1967  
 125392, 1843  
 125469, 2602  
 126090, 486  
 126444, 612  
 127119, 2602  
 127816, 118, 119, 1972,  
 1977  
 128119, 1979  
 128120, 1895, 1970  
 128950, 2601  
 128956, 1826, 2053  
 129484, 473  
 130033, 2601  
 132605, 581  
 132732, 2603  
 133542, 1257, 1278, 1282,  
 1287  
 134165, 486  
 134721, 335, 2480  
 135474, 478  
 136447, 2602  
 137206, 333  
 137255, 2174, 2363  
 137330, 338, 1492  
 137461, 2174  
 138783, 2057  
 139552, 1293  
 139589, 1906, 1908, 2053  
 139669, 332, 787, 1494,  
 1730, 1733, 1808,  
 2002  
 139738, 1939  
 139905, 2057  
 140164, 1896  
 140263, 1937, 2058  
 140480, 1808  
 140521, 2616, 2619  
 140784, 1909  
 140855, 2058  
 141268, 2602  
 141310, 2053  
 141783, 275  
 141925, 1974  
 142452, 1895  
 142832, 1895  
 142971, 1896  
 144217, 2056  
 144648, 1896  
 145106, 339, 340, 1860,  
 1889, 2607  
 145400, 486  
 148682, 2603  
 149297, 2601  
 149764, 1909  
 151918, 339, 340, 421,  
 1859, 1878, 1889,  
 2607  
 152111, 339, 340, 355,  
 1866, 1889, 2607  
 152432, 4, 338  
 152630, 343, 2046  
 152743, 2174  
 152822, 2601  
 153350, 335, 336, 337,  
 1822, 2501  
 155415, 285, 2477  
 155745, 247, 1537  
 156413, 2600  
 158217, 338  
 159524, 336, 337, 384,  
 446, 450, 1380,  
 1822, 2174, 2501  
 160102, 1293  
 161171, 1886  
 161213, 1822, 1830  
 162239, 341, 1928  
 162281, 1886

## Germany

162594, 1293	189703, 355, 421, 1866,	211573, 365
162658, 252	1878	214398, 2059
163316, 337, 344, 350,	189836, 362, 695	214720, 2498
385, 598	189837, 362, 695	214962, 1857, 1874
163668, 1800, 1833, 2030,	190964, 2601	215672, 46, 2616
2046	191326, 356, 2501	217477, 731
164894, 2611	191454, 2030	218010, 628
165331, 2128	192666, 1936, 1944, 1947,	218466, 1823
166181, 1871	1957, 1962	219116, 369
168497, 1833, 2055, 2058	193121, 285, 2477	219162, 362
168728, 1267	193135, 351, 2237	219163, 362
169364, 335, 340, 2501	193210, 367, 2434	219305, 1165
169782, 342, 1833	193830, 1258, 1278	219918, 2001
171900, 1034	195312, 1865, 1944, 1947	220173, 731
172941, 1928, 2030	196730, 359, 368	220228, 355, 421, 1866,
172966, 1922, 1932, 2030	198008, 360, 565, 672,	2049
172967, 1932, 1980, 2030	723, 2025	220322, 1833
173020, 1928	198482, 352, 1697	221081, 2049, 2055
173240, 1908	198703, 2128	222236, 581
173796, 1970	199559, 351, 360, 2025,	222248, 46
174259, 1922, 1932	2237	222302, 1246
174914, 587, 1981	199885, 379, 1358	222450, 369, 1697
175209, 1255, 1263, 1276	200023, 2174	222777, 1833
175379, 343, 1833	200145, 363, 376, 1942	222919, 1252
175664, 342, 1940	200149, 349, 350, 356	223793, 367, 368
176121, 1830	200334, 363, 1684, 1842	224330, 365
176474, 2015, 2021	200916, 337, 344, 350	227198, 373
177778, 2053	201233, 354, 1697	227238, 374, 2018
178133, 2030	201907, 364, 1815	227667, 376, 1967
178299, 1256	201910, 359, 368	228381, 2472
178438, 2472	201914, 2616	228867, 361, 2237
179590, 1618	202267, 358	229001, 2129
179947, 242, 349, 350,	202720, 365, 1807, 1833,	229379, 2600
356	1878, 1890, 1986,	229412, 2600
180126, 2015	2046	229450, 385
180203, 2021, 2049	203178, 354, 359, 446,	229536, 1839
180204, 2049	465, 1697	229678, 1884
180208, 1833, 2021	203642, 352, 353, 1728	229715, 2600, 2603
180489, 1833, 2049	203685, 2600	229837, 2600
180666, 350, 351, 1682	203916, 2128	231030, 426, 2620
180667, 351, 1682	203924, 2601	231254, 1246
181784, 353	204708, 486	231643, 2174
182558, 341, 1490	204772, 2256	233589, 386, 387
182627, 1908	206223, 2472	234028, 351, 360, 369,
182773, 342, 2174	206950, 359, 1697, 1728	2025
184145, 345	207743, 1427, 2465	234500, 378
184201, 345, 598	207868, 2049	235300, 2129
184229, 369, 1815	207869, 2056	235357, 374, 1979, 2018
185151, 350, 363	208635, 1886	235381, 374, 2018
185240, 352, 1856, 1858,	209923, 457	235589, 387
1859, 1861, 2020,	210519, 365, 367, 368,	237015, 2540
2048, 2056	569, 1803, 1833,	237151, 370, 1802
185241, 352, 1856, 1858,	1878, 1924, 2049	237152, 628
2048, 2056	210705, 1823	237210, 390
185808, 1833, 1878, 2047	210778, 356	237262, 731
185837, 336, 337	211186, 1823	237599, 361
188542, 343	211520, 365, 1833, 1878	237718, 361, 1891

237765, 373, 389	254709, 1840	273800, 1135
237766, 374, 389	254784, 385,1803,1833	273958, 2606
238341, 1839	255302, 2174	273979, 423
238348, 276, 375, 384, 569,1804,2025, 2049	255692, 408,1833,1985, 1989,2049	274260, 412, 531, 581, 642,2082
238361, 1878,2474	255704, 400	274875, 1703,1719
239077, 1842	256922, 399, 403, 456, 2058	275049, 1277
239094, 285	257227, 628	275882, 587
239314, 731	257459, 2174	275962, 400
239701, 361, 387, 388	258057, 1886	276013, 412,1297,1957
240188, 345, 374,1833, 2018	258370, 2611,2619	276661, 1878
240751, 356,1878	258473, 1823	277490, 1833
241781, 2474	258879, 400	277529, 41, 388,1927
241898, 581	260379, 1427,2465	278084, 2616
241963, 41, 368, 387	260984, 387, 417	278487, 508
241973, 399	261594, 287	278933, 2616
241997, 296,2240	262253, 413,2174	279127, 1833,1878
242289, 385, 387	262469, 612	279638, 423,1803,1833
242467, 369, 376,1878	262552, 2174	280111, 425,2526
242570, 1251	262558, 1427,2465	280377, 1989
242786, 383,1825,1878	263056, 407,2027,2028	280740, 1254,1267
243068, 374,2018,2174	263106, 1840	280975, 1823
243581, 372, 409,1733	263404, 1800,1803,1984, 1986	281225, 481, 494,1833, 2006
244566, 1833,1878	265415, 1427,2465	281262, 1963,2022
244787, 1965	265852, 387, 388, 421, 463,1860,1867	281265, 589,1803,1830, 1833,1878,1884, 2616
245532, 1823	265855, 1427,2465	281304, 459
246081, 405	265911, 388, 421, 463, 1867	281373, 444, 478,1922, 2049,2396
246443, 430,1483,1576, 2565	266384, 41	281374, 399, 456, 531, 1797,1833
246651, 396, 409,1913	266600, 388, 463,1799	281687, 464,1816,1824
246657, 1878	266781, 401,1825	281877, 1815,1889
246967, 393,1884	267370, 426,2620	282057, 415
248255, 1823	267509, 2128	282672, 1823
248559, 356	267557, 388, 463,1799	283746, 424
248946, 374,2018,2174	267992, 1830,1833,1878	284672, 402, 437, 481, 494,1878,1982, 1986,1988
249225, 2256	268340, 1291	284726, 420, 465
249256, 628	268489, 403	285285, 1562
249348, 2049	268627, 399, 403,1833, 2058	285664, 287
249535, 386, 387,1687, 1833,2049	268629, 399	285772, 1427,2465
250421, 1803,1833	268658, 179,2286	286120, 459
251351, 402, 408, 494, 1982,1985,1986, 1989	269103, 392, 402, 598	286173, 412, 465,2384
251372, 1960	270314, 382	287003, 675
252706, 348, 349, 598, 659	270580, 425	287073, 424, 447
253334, 63,2541	270618, 1240	287092, 1246
253507, 2256	271381, 720,1922	287601, 1906
253984, 1878	272098, 423	287745, 385, 455, 526, 1830,2399,2563
254083, 401, 461	272121, 400	287933, 1984
254093, 386, 387	272339, 1259,1282,1287	287955, 200
254193, 1833	272391, 437, 587,1800, 1803,1982,1984	288267, 429, 444, 478, 508,1857,2398
254385, 384, 569,1804, 1833	272695, 404	
	273029, 392, 402	
	273706, 400	

## Germany

289142, 2611	305125, 447	331050, 587,1983
289498, 1984	305182, 457, 719	331285, 440,1878,1910,
290544, 1815,1877,1889	305348, 413, 465, 466,	1943,1981,1998
291076, 196	554	331523, 1427,2465
291229, 1889	305429, 444	332203, 39, 56, 122,
291299, 1815,1877	305516, 40	242, 449, 518,
291457, 1427,2465	305550, 447	1489,1671,1699,
291802, 344	305884, 413, 465, 554	1719,1741
292089, 1251	306131, 466, 554	332677, 475,1823,1921
292370, 2619	306318, 433	332679, 437
292531, 1427,2465	307075, 474, 484, 580,	332680, 437
292589, 344	1803,1830,1998	332866, 481,1965
292817, 438	307125, 40,1567,1872	332909, 587,1981
292818, 719, 833	308616, 1155	333154, 480
292951, 1868,1869	309103, 447	333155, 591
293042, 1426,1427	309171, 440	334236, 2617
293070, 719, 833	309201, 448	334357, 519
293261, 412, 465	309939, 439	334554, 483,1922
293640, 1427,2465	310092, 528	334761, 458,1981,1987
293693, 1426,2465	311500, 477	334871, 1988
295075, 437	311557, 2174	334983, 1966
295764, 384,1803,1804,	313650, 1823	335359, 585
1833,1878	313696, 444,1922	335563, 1234
295822, 1884	314317, 1878	336205, 1251
295889, 410, 435	315021, 456	336476, 64, 192,1297,
296205, 455, 478, 526	317145, 482	1572,1576,1803,
296206, 487	317412, 47,1953	1805,2568
296272, 2638	318509, 40	337960, 1165
297030, 439	318898, 429	337993, 285,1586
297504, 413, 465, 466,	319723, 446, 514,1805,	338056, 1908,1922
554	1943	338475, 462,1938
297955, 448	319966, 480	338653, 2152
298806, 41, 465,1927	320339, 495,2586	338737, 1264
298931, 539,1823	320629, 462	339301, 2131
299036, 411, 435	321251, 480	339690, 2312
299074, 1823	321264, 438,2482	339824, 585
299181, 427, 448, 586	322586, 8, 64, 112,	339946, 427
299386, 1165	399, 531,1447,	339947, 1287
299467, 719	1570	340552, 2312
299782, 456	322619, 40,1908	341720, 1908,1922
300908, 388, 463	322648, 40,1872,1908	342097, 94,2310,2377
301088, 1340	322746, 578	342223, 573
301449, 411, 435	323816, 488,2435	342536, 573
301664, 1297	323891, 293	342969, 1285
301713, 1297,1572,2568	324663, 461	343162, 1865
301751, 437	324786, 444, 508,1930,	343182, 507,1891,2016
301758, 482	2398	343183, 43, 82,2580
302460, 474,1803,1830,	324944, 514,1805	346236, 578
1910,1998,1999	325639, 461	346384, 1297
302521, 1297,1572,2568	326705, 1177	346672, 413, 466, 554
302542, 431	326729, 1823	346830, 523,2371
302543, 1288	327128, 456,1856	346832, 472
302611, 467	327180, 458,1987	346883, 284, 787,1686
303018, 428, 487,1902	327376, 1965	347130, 443
303530, 413, 465	328035, 1231	347131, 456
304104, 447	330358, 467	347190, 444
304224, 470, 570,1950	331024, 436, 492,2438	347276, 456,2236

- 347359, 456  
 347817, 413, 466, 554  
 348149, 1619  
 348297, 1980  
 348530, 196,2221  
 349868, 64,1570  
 349905, 1983  
 350808, 1287  
 350921, 565  
 351228, 474,1979  
 351688, 1983  
 352191, 63, 64,2080,  
 2082,2087  
 352192, 2080,2082,2087  
 352905, 1803,1830,1878,  
 2003,2032  
 353233, 1874  
 353234, 1874  
 353662, 496  
 354344, 1823  
 355533, 510, 530, 672,  
 2222,2223  
 356561, 65  
 357010, 50,2527  
 357011, 531,1902  
 357707, 46,1157,1338,  
 1807,1940,1953  
 357720, 531  
 357972, 496,1797  
 358285, 531,1902  
 358399, 40  
 358400, 1983  
 358679, 527  
 358729, 1823  
 358774, 508  
 359311, 443, 506  
 360325, 456  
 360415, 44,1418,1482  
 360417, 508, 719  
 360418, 508, 719  
 360527, 1282  
 360651, 1287,1687  
 361041, 1267,1268,1269  
 362030, 65,2529  
 362741, 1271  
 362748, 507  
 362752, 1264  
 363192, 64, 89, 283,  
 290, 531,1380,  
 1381,1383,1656  
 364040, 238  
 364347, 1833,1865,1878  
 364397, 525  
 365078, 65,2228  
 365169, 192  
 365192, 1660  
 365283, 440  
 365351, 444  
 365668, 1619  
 366114, 533  
 366115, 66, 457,1845,  
 1851,1961,1976  
 366116, 80, 464,2001  
 366146, 587  
 367106, 533,1992  
 367294, 507,1954  
 367560, 533,1810,1860  
 367677, 535  
 368119, 456  
 368362, 65, 534,1828  
 368413, 1381,1489  
 368476, 2049  
 369445, 533,1851  
 369446, 533  
 369447, 533,1976  
 369535, 533,1810  
 369536, 534,1810  
 369560, 487, 534  
 369702, 1267,1268  
 369944, 1808  
 370471, 251,2366  
 371147, 238  
 372545, 534,1851  
 372546, 534,1851,1961  
 372856, 1833  
 374141, 502,1823  
 374322, 66,1982,1991  
 374596, 532  
 375072, 2488  
 375274, 570  
 375640, 478,1833,1864  
 375641, 478,1864  
 378137, 1251  
 379343, 532,1930  
 380651, 1940  
 380797, 101  
 381413, 1941  
 383528, 447  
 383699, 532  
 383699, 642,1840,1930  
 384007, 101,1604  
 384726, 554  
 384839, 532  
 385962, 48,1582,1600  
 386688, 516  
 387685, 476, 565  
 388337, 2498  
 388369, 1569  
 389403, 571  
 390094, 551,2544  
 390621, 1278  
 391667, 1915  
 391873, 507,2016  
 392029, 2488  
 393550, 1251  
 395083, 276  
 395084, 276  
 395104, 276  
 395703, 507,2021  
 395704, 66,2034  
 395829, 578  
 396051, 43  
 396696, 534  
 397012, 2174  
 397685, 1278  
 397919, 707,1803,1878  
 398255, 1237  
 399074, 80,2001  
 400190, 476  
 400312, 1297  
 400662, 2488  
 400862, 2488  
 401449, 129  
 402401, 2152,2174  
 402752, 508,1857  
 402996, 1983  
 403050, 1870  
 403264, 238  
 403507, 1269  
 403644, 591  
 403990, 2152,2174  
 404024, 2030,2049  
 404173, 1283  
 404999, 1823,1964  
 405384, 1823  
 405841, 2497  
 406013, 582,1991,1992  
 406081, 241,2468  
 406426, 532, 642,1840,  
 1930  
 406681, 289  
 406924, 1982,1986,1989  
 407213, 555  
 407888, 567  
 408342, 98, 130, 258,  
 301,1452,1454,  
 1455  
 408414, 2240  
 408821, 494  
 410363, 516  
 410470, 1823  
 411106, 516  
 411156, 1493  
 411519, 534  
 411900, 533, 643  
 411955, 508  
 411990, 1494  
 412053, 2240  
 412884, 508,1979  
 413188, 2498  
 413447, 1268

## Germany

- 414852, 1247  
 415823, 555  
 415937, 998  
 416072, 554  
 417170, 1268  
 417411, 1278  
 418487, 279,2326  
 418940, 2276  
 419223, 534, 644,1875  
 420017, 494, 556,2276  
 420441, 1268  
 420974, 298  
 421407, 535  
 421383, 628  
 422500, 534  
 422729, 545  
 422739, 526  
 423601, 113,2276  
 424560, 88,1763,1768  
 424835, 2498  
 424981, 196  
 426091, 2492  
 427181, 535  
 428058, 1929  
 428176, 546, 673  
 428745, 249, 721,2099,  
 2113,2115  
 430693, 2498  
 431249, 119,1876  
 433146, 279, 998,2326  
 433147, 1527,1731,2277  
 433236, 111, 298,2275  
 433349, 546  
 433733, 2132  
 434640, 661,1942,1991  
 435346, 1452,1455  
 435347, 509  
 437450, 1251  
 438324, 1753  
 438434, 1753  
 438372, 1252  
 438378, 123, 547, 672,  
 2229  
 438916, 1644  
 438918, 90,1768  
 439004, 197, 672,2220,  
 2224  
 439009, 547,1840  
 439111, 547,2212  
 440844, 131,1464  
 441023, 276  
 441325, 547,2294  
 441327, 672,2235  
 441747, 1268,1270  
 444961, 2214  
 442256, 626  
 442310, 275  
 442342, 1823  
 443414, 2115  
 444799, 1251  
 444961, 547  
 445308, 276  
 445569, 2468  
 445644, 573  
 445728, 1230  
 445979, 197, 548, 672,  
 2220  
 446220, 672, 675, 686,  
 2261,2263  
 446486, 623,2200  
 446539, 673, 686  
 446541, 673  
 447420, 197  
 448286, 285,2477  
 450900, 609, 2088  
 450977, 67,2260  
 451110, 624,2200  
 451179, 629  
 451231, 2263  
 451411, 288,2240  
 452138, 535  
 452213, 673,2294  
 452910, 276  
 453215, 2229  
 453455, 2283  
 453938, 2213  
 455589, 1644,1768,2459  
 456518, 592,2435  
 456929, 1231  
 457957, 547, 673,2264  
 459604, 1029  
 460235, 2174  
 460523, 1093  
 461175, 619  
 461753, 674,2319  
 462994, 720  
 463871, 730  
 466937, 1753  
 467003, 91, 293,1428,  
 1641,1644  
 467036, 157,2264  
 467038, 2262  
 467585, 1753  
 468017, 624  
 468018, 624,2149  
 468210, 2264  
 468210, 157,2264  
 468476, 2609  
 468743, 147,2174  
 468981, 122, 157,2295  
 469189, 2031  
 469317, 55,2524  
 469513, 159,2280  
 469514, 114, 157,2277  
 469942, 724  
 470142, 11, 206,1180,  
 1414,1428  
 470537, 196  
 470579, 558,2565  
 470731, 209,2529,2533  
 470849, 2285  
 471103, 1180  
 471370, 624,2149  
 472135, 2256  
 472311, 548,1840  
 472399, 545  
 472421, 1252  
 472474, 196  
 472623, 645  
 473454, 196,2221  
 473701, 671,2433  
 473833, 730  
 474086, 1877  
 474502, 1279  
 475214, 44,1420,1537  
 475884, 83,1421  
 475885, 626  
 476005, 560  
 476255, 1232  
 477066, 548, 785,2080  
 477154, 11,1180  
 477168, 1098  
 477494, 1251  
 477507, 114  
 478011, 1708  
 478082, 1268  
 478476, 115,2283  
 479003, 785,2080  
 479083, 192,2418  
 479224, 610,2233  
 479225, 197,2297,2261,  
 2263,2277  
 479343, 675,2261  
 480298, 548,2209  
 480899, 129, 160,2230  
 480904, 148,2261  
 481253, 673,2155  
 481265, 676,2256  
 481945, 114,2100  
 482282, 187,2440  
 483002, 876,1954,2544  
 483080, 1716  
 483484, 891,2482  
 483999, 783, 879,1712  
 484146, 844,2588  
 484242, 548,1716  
 485265, 197  
 485266, 880  
 485434, 1268  
 485896, 247  
 486493, 1231

- 486533, 1409,1686  
 486696, 2220  
 486953, 667  
 487011, 879,2125  
 487024, 191,2079  
 487242, 721,2099  
 487458, 673,2248  
 487552, 2113  
 487618, 2528  
 487646, 211,2525  
 487941, 198,2264  
 488030, 82,1420,1484  
 488151, 884,2619  
 488157, 626  
 488446, 84,1224,1428,  
 1663  
 488466, 1675  
 488528, 839  
 488573, 625  
 488780, 247, 301,1421,  
 1450  
 488781, 247,1347,1424  
 488986, 723  
 488989, 730,1822  
 489261, 739  
 489283, 671  
 489344, 879,2264  
 489360, 671  
 489863, 718,2275  
 490401, 869  
 490987, 1681  
 491726, 665,2392,2595  
 492062, 194, 240,1451,  
 1591,1625  
 492148, 615,2145  
 492246, 155,1435  
 492319, 239,1486  
 492621, 700  
 493101, 719  
 493102, 719  
 493456, 241  
 493585, 247  
 494416, 629  
 494917, 240, 301,1440,  
 1452,1486,1591  
 495040, 1831  
 495334, 916  
 495619, 675, 722,2264,  
 2277  
 495620, 240,2262  
 495712, 121, 288,2240  
 496050, 1096  
 496059, 1149  
 496062, 1865  
 496085, 251,2366  
 496978, 247, 294,1421,  
 1425  
 497240, 147,1645,1748  
 498028, 240,1609  
 498418, 108,2100  
 499053, 646,1727  
 499129, 247, 301,1421,  
 1450  
 499507, 975  
 499676, 232,1578,2546  
 499965, 676,2246  
 500008, 1076  
 501020, 165,2248  
 501443, 241,2260  
 501643, 240,2520  
 501833, 620  
 501889, 662  
 502263, 1955  
 502320, 908,2198  
 502431, 625, 975,1875  
 502865, 2408  
 503131, 626,1029  
 503450, 1408  
 503716, 1251  
 504018, 2053  
 504226, 46, 86,1488,  
 1575,1576,1807  
 504247, 241,2256  
 504325, 1279  
 504722, 916  
 504862, 977  
 505041, 1686  
 505222, 821,2083  
 505332, 215,2083  
 505401, 1409  
 505610, 578,1011,1064,  
 2307  
 505629, 980,2215  
 505674, 721  
 505687, 1621  
 505797, 161,1437  
 505885, 241  
 506280, 1720  
 506677, 241,1916  
 507205, 1002  
 507416, 629  
 507997, 656,1494  
 508070, 299,2217  
 508092, 629  
 508153, 230,1812  
 508256, 662  
 508556, 1810  
 508562, 881,2301  
 508930, 241,2467  
 509010, 885  
 509020, 671, 976  
 509029, 977  
 509067, 241 2468  
 509304, 242,2297,2469  
 509400, 223, 623,2462  
 509401, 242,2297,2467  
 509936, 662  
 510424, 242,1653  
 510425, 839  
 510855, 242,2436  
 511019, 191, 289,1357,  
 1462,2094  
 511020, 131  
 511208, 242, 979, 980,  
 1654,1673,1677,  
 1712,1741  
 511477, 1954  
 511793, 69,1446  
 511978, 1708  
 512160, 97,2528  
 512225, 626  
 512321, 144,1950  
 512399, 198, 243,2184  
 512637, 722,2197  
 512912, 243,1983  
 513024, 1000  
 513061, 882  
 513203, 1234  
 513363, 882  
 513375, 169,2086  
 513541, 2053  
 513574, 655  
 513763, 610,2257  
 513771, 860  
 513796, 625  
 513863, 1240  
 514400, 2190  
 514435, 1994  
 514466, 1412  
 514591, 977  
 514892, 223,1661  
 514945, 251,2414  
 514952, 243,2262  
 515029, 243, 280,2284,  
 2295  
 515056, 1919  
 515106, 882, 979,1065,  
 1708  
 515107, 882, 979,1709,  
 1711  
 515109, 1716  
 515305, 285,2477  
 515307, 626  
 515531, 678,2552  
 515533, 989  
 515541, 1920  
 515779, 917  
 516069, 1231  
 516250, 882,1726  
 516461, 88,1722  
 516462, 721,2032



## Germany

- 516716, 788,1902,2432  
 516751, 285,1593,2385,  
     2386,2576  
 516882, 790,1712  
 516982, 280,2284  
 517141, 986  
 517355, 2368  
 517451, 883, 983,2432  
 517491, 285,1586,2572  
 517497, 629  
 517538, 1899  
 517932, 814,2111  
 518100, 840  
 518194, 285,1593  
 518197, 285,1593  
 518241, 285,1593  
 518290, 945  
 518724, 286,2436  
 519028, 660,2589  
 519137, 739,2527  
 519457, 286,1708,2441  
 519877, 989  
 519973, 626  
 519983, 286,2184  
 519984, 279,2326  
 520384, 1450  
 520411, 286,1797  
 520971, 983  
 521125, 838  
 521200, 831  
 521362, 1240  
 521452, 293  
 521453, 294,1421  
 521520, 592,2435  
 521598, 981,2105  
 521613, 624,2156  
 521720, 980,1365  
 521721, 287,1592,1601  
 521723, 1865  
 522054, 287,1592  
 522170, 109, 122,1541  
 522171, 238,1605  
 522486, 1580,1926,2330,  
     2474  
 522575, 286, 288,1436  
 522959, 1816  
 523271, 1226  
 523300, 266,1572,2117,  
     2401  
 523434, 286, 983,2137,  
     2138  
 523600, 1231  
 523910, 287,2478  
 524256, 1992  
 524350, 287,2263  
 524509, 288,1460  
 524716, 976, 977  
 525084, 619,2331  
 525182, 288,2240  
 525424, 288,2425  
 525611, 300,2534  
 525650, 288,1436  
 525835, 288,1652  
 525836, 1875  
 525860, 289,2094  
 526193, 964,2312,2325  
 526197, 124,1644  
 526264, 2118  
 526277, 983,2311  
 526467, 1024,2398  
 526479, 978,2625  
 526481, 1240  
 526691, 1020  
 526792, 289,1441  
 526793, 980  
 526794, 980  
 526795, 945,1029  
 526797, 945  
 527197, 289,2420,2421,  
     2575  
 527254, 293,1428,1641,  
     1644  
 527403, 289,2576  
 527445, 1995  
 527616, 289,1607  
 527617, 290,1656  
 527736, 981,2564  
 527737, 147,1897  
 527770, 1003  
 527873, 833  
 528140, 978  
 528147, 269,1671  
 528148, 640  
 528359, 290,1626  
 528821, 978  
 529191, 979  
 529692, 161,2296  
 529800, 947,2334  
 529840, 290,2421  
 529969, 290,2326  
 529970, 983  
 530121, 1578  
 530149, 1179  
 530395, 758  
 530470, 922  
 530508, 2124  
 530803, 981,2131  
 531078, 921  
 531079, 146,2178  
 531103, 290,2265  
 531175, 981,2398  
 531221, 1165,2661  
 531276, 1004  
 531295, 983  
 531336, 1995  
 531433, 804  
 531642, 1977,1992,2576  
 531981, 1359  
 532004, 2140  
 532734, 970  
 533046, 1001  
 533060, 2121  
 533126, 979,1654,1712,  
     1741  
 533127, 979  
 533312, 977  
 533462, 1436  
 533463, 979  
 533466, 976  
 533496, 983,2247  
 533593, 979,1711  
 533619, 2529  
 533802, 983  
 533939, 978  
 534235, 1900  
 534366, 859  
 534466, 964,2312  
 534566, 1009,2249  
 534621, 1039  
 534636, 1810  
 534641, 2240,2304  
 534834, 2045  
 534852, 1668,2454,2576  
 535046, 977  
 535109, 820,2585  
 535139, 1579,1585  
 535144, 2317  
 535167, 1585,2409  
 535168, 1832,1934,1993  
 535235, 1654  
 535241, 2555  
 535253, 980,1677,1712  
 535283, 998,2158  
 535337, 1585,2461  
 535355, 1035  
 535393, 992,1723  
 535439, 2499  
 535472, 2397  
 535650, 1061  
 535724, 1019  
 535913, 1005  
 535981, 2539  
 536068, 1009,2309  
 536119, 1980  
 536372, 1025  
 536429, 1036  
 536574, 2109  
 536666, 2109  
 536886, 2218  
 536890, 1465,1547,2098  
 536914, 1245

536993, 1439  
 537361, 2141  
 537363, 1029  
 537488, 2529  
 537489, 2596  
 537626, 1366,1565,2217  
 537846, 1171  
 538026, 1076  
 538065, 1022,2566  
 538110, 1341,1564,1586,  
 2014,2577  
 538483, 2368  
 538686, 1347,2577  
 538856, 1028  
 539114, 2249  
 539268, 1068  
 539367, 1897,2661  
 539390, 2126  
 539467, 2140  
 539470, 1494,1708,1714  
 539471, 833,1687  
 539867, 1029  
 539938, 1152  
 540351, 2120  
 540375, 1096  
 540872, 2577  
 540902, 1991  
 540997, 2324,2475  
 541072, 2263  
 541097, 1029  
 541146, 1452  
 541167, 1036  
 541201, 2479  
 541471, 1040  
 541566, 1270  
 541637, 2265  
 541911, 1091  
 542004, 1637,1671,1756  
 542063, 1646,2459  
 542158, 1548  
 542225, 1036  
 542254, 1023  
 542287, 2421,2575  
 542354, 835  
 542598, 1096,2535  
 542633, 1717  
 542779, 2297,2263  
 542811, 2115  
 542812, 2115  
 542814, 1876,2080,2523  
 542867, 1399,1614,1658  
 542868, 1064  
 542889, 1573,2408,2415  
 542890, 2097  
 542891, 1069  
 542925, 1718  
 543006, 2109

543146, 2076  
 543463, 2661  
 543554, 1044  
 543701, 2098  
 543825, 1977,2424  
 544123, 2124  
 544243, 1093  
 544691, 1046  
 544697, 1580,2330,2474  
 544777, 1061  
 545172, 1853  
 545323, 1084  
 545846, 2265  
 546104, 1150  
 546127, 1096  
 546213, 2136  
 546281, 1061  
 546314, 1408  
 546344, 1152  
 546511, 1049  
 546660, 1045  
 546744, 2247  
 546826, 1045  
 546911, 2274  
 547039, 1832,1934  
 547348, 2221  
 547641, 1045  
 547665, 2386,2576  
 547801, 2588  
 547812, 1687  
 548164, 1080  
 548204, 1045  
 548264, 1082  
 548368, 1244  
 548369, 1047  
 548370, 1925  
 548371, 1945  
 548456, 1399  
 549194, 2028  
 549220, 1897  
 549241, 2274  
 549641, 1085  
 549648, 2624,2625  
 549839, 2628  
 550119, 1696  
 550120, 1696  
 550240, 1696  
 550258, 1647  
 550259, 1647  
 550322, 1702  
 550427, 1696  
 550428, 1398  
 550475, 1726  
 550652, 1091  
 550702, 2625  
 550760, 2628  
 550761, 1093

550905, 1069  
 551093, 2054  
 551253, 1065  
 551754, 2661  
 551775, 2634  
 551792, 1074  
 551863, 2643  
 552005, 2312  
 552290, 2120  
 552425, 1045  
 552833, 1049  
 553069, 1064  
 553177, 2630  
 553605, 1047  
 553786, 1068  
 554000, 1068  
 554233, 2625  
 554309, 2627  
 554696, 1061  
 554697, 1063  
 554698, 2661  
 554781, 1080  
 554783, 1060  
 554784, 1046  
 554632, 2638  
 554802, 2635  
 554877, 2624  
 554948, 1061  
 554969, 2635  
 555001, 1093  
 555373, 1066  
 555930, 2624  
 556063, 2628  
 556247, 1048  
 557244, 2646  
 592062, 1440

# GREAT BRITAIN

## Applications

1918

2141, 415  
 4957, 415  
 4968, 415

1919

7465, 474

1920

13796, 442  
 13926, 442  
 16823, 570  
 16861, 408

## Patents

1850

13296, 1199

**Great Britain**

1855	1880	5344, 1805, 1832, 1837
2359, 1832	2149, 1562	7067, 2300
1856	2775, 2004	7624, 2602
2256, 1945	4874, 1858	10376, 1969
1857	1881	10393, 1830, 1837, 2049
1884, 2537	983, 384	1890
1858	2302, 1562	9315, 1837, 1913, 2049
639, 1832, 2537	1882	11668, 2601
1863	2943, 1751	11669, 2601
2359, 1908	3072, 1832, 2049	11945, 2601
1867	4458, 2003	12684, 1830, 1913, 1916
1695, 1832	1883	18472, 2003
3542, 2603	466, 1830, 1832, 2049	20605, 2489
1868	2266, 1945	20690, 1837
3984, 2049	2481, 1805	1891
1869	5974, 1832, 1856	3345, 1916, 2049
3102, 1832, 2049	1884	8823, 1832
1871	267, 435	10357, 2600
1208, 1832, 1856	5433, 1832	11326, 1908
2311, 435	12807, 1934, 1978	11326A, 1908
1872	15121, 1830, 2049	14977, 2608
1443, 2606	1885	15442, 2608
2693, 1176	491, 1837	18413, 2618
1873	2134, 2472	1892
1830, 1562	4668, 1837	1566, 2618
1874	9214, 2300	2718, 209, 211, 2300,
2062, 1562	1886	2350
3150, 1945	2210, 2173	3364, 2608
1875	2211, 2173	6542, 1830, 1878
2044, 1805	5413, 1832	6543, 1830, 1878
4179, 1969	8442, 1830	7501, 563
1876	8842, 1805	7688, 1832
1115, 2498	9027, 1934	12390, 2128
2472, 1181	1887	19743, 844
1877	383, 1832	1893
3647, 1945	2694, 1856	2690, 2600
1878	5791, 1830, 1832, 1834,	3557, 1930
1644, 2601	1837, 2049	7277, 1832, 1837, 1962
2484, 1832, 1856	8253, 1830, 1916	7784, 1830, 1832, 1837,
1879	12013, 1945	1869
959, 1832, 1856	15771, 1837	8248, 2600, 2601
1865, 1832, 2049	16330, 1832	12367, 1140
1866, 1796, 1814, 1830,	1888	13851, 2498
1832, 1856, 2049	487, 1837	20234, 2003
2484, 1830	1594, 2498	21455, 1878
	9799, 2028	22137, 1830, 1874, 1930
	17691, 2608	22384, 2026
	18241, 2003	23366, 2602
	1889	24634, 2606
	2570, 2173	24695, 2059
	4479, 1952	1894
		1478, 2603
		9676, 322
		13139, 1830, 1832, 2618

13823, 2619  
15327, 1832  
15914, 1939, 1947, 1952,  
1958, 2004  
17747, 1856  
20234, 1952  
21331, 94, 2015, 2021  
22019, 1805, 1830  
24901, 1907

1895

6473, 329  
11946, 2498  
14334, 2607  
20197, 2608  
20313, 2248

1896

2568, 2049  
6389, 1833, 1878  
6856, 1893  
6858, 1830, 1833, 2003  
10104, 2472  
12451, 2618  
12693, 435, 1833, 1878  
13198, 1833  
13773, 2608  
17717, 1837, 1856  
22162, 2028  
22540, 1864, 1868  
24790, 1856  
25779, 1274, 1833  
28613, 296, 1883

1897

1144, 1618  
7975, 1878, 2005, 2490  
9970, 2002  
10098, 2540  
13724, 2002  
17602, 1830, 2053  
21361, 2608  
22022, 2173  
27534, 1833, 1878  
28613, 485, 1830, 1837,  
1913

1898

11927, 654, 1833, 2049  
13560, 1878  
18283, 328, 1842  
22029, 328, 1697, 1700,  
1842  
24662, 330, 1734  
27397, 2128

1899

3247, 2472  
5344, 1181

7020, 1257  
9577, 2173  
13287, 1808  
15057, 2603  
15355, 1833  
20092, 331, 1830, 1878  
20279, 1808  
22867, 2603  
23497, 2602  
25434, 2033, 2034, 2043  
25519, 2537

1900

1560, 2602  
1561, 2602  
4052, 2600  
7301, 620  
7594, 2601, 2603  
7676, 1856  
8930, 2603  
9087, 2173  
11469, 2603  
11749, 332  
11751, 1928  
12668, 2498  
13131, 550, 1868, 1923,  
1961, 1967  
13344, 2602  
14475, 2537  
17687, 2480  
17948, 41, 1338, 1906  
18017, 2602  
19039, 333  
20710, 2602  
20733, 1888

1901

715, 2600  
872, 1896  
926, 2600  
4326, 1978  
5405, 2480  
8063, 2049, 2053  
8072, 1895, 1928  
8301, 1833  
9727, 2603  
10213, 1828  
12863, 2014  
14231, 1952, 1969  
18744, 1833  
20398, 2173  
21628, 336, 337, 348,  
450, 1822, 1909,  
2501  
22273, 2603  
22662, 1953, 2014  
22709, 2602

24183, 2602  
24509, 2602  
25772, 2128  
26075, 337, 2049

1902

1377, 2472  
2264, 341, 1734  
4383, 1896  
4886, 339  
7088, 338, 340, 1858,  
1866, 1878, 1889,  
2049, 2607  
7146, 2603  
7988, 339  
8083, 100, 2081  
9416, 2004  
9868, 341, 1490  
9906, 2602  
9992, 1878  
10872, 338, 1492  
10896, 2616  
11164, 340, 651, 1414  
11997, 341  
12863, 2014  
16833, 2602  
17163, 2602  
17653, 1141  
17786, 2601  
18917, 2603  
19565, 341  
20660, 329, 341  
23386, 2603  
23445, 1896, 1928  
24532, 2499  
24546, 2601  
24955, 1857  
25821, 340, 2501  
25939, 2472  
28638, 6

1903

1676, 343, 2046  
1753, 384  
1803, 2603  
1992, 2603, 2606  
2099, 2600  
3045, 2055, 2057  
4863, 340, 1830, 1833,  
1878, 2049  
7134, 435  
7341, 344  
7346, 336, 337, 1380  
8649, 2601, 2602  
9653, 2499  
10243, 343, 1858  
11734, 384

## Great Britain

11908, 2601  
 11909, 2601  
 14483, 2173, 2474  
 15302, 2603  
 15490, 343, 2602  
 15696, 1833, 1878, 2049  
 16283, 2603  
 16445, 2606  
 16446, 2601  
 16604, 2173  
 17135, 2045  
 17156, 1826  
 17827, 2611, 2616  
 18022, 2173  
 19163, 2600, 2601  
 22525, 2173  
 23386, 2603  
 23752, 2057  
 24382, 2602, 2603  
 24382A, 2602, 2603  
 24629, 2611, 2616  
 25390, 346  
 25463, 376  
 26360, 2129  
 27515, 2031  
 28784, 2600

## 1904

925, 886  
 2573, 674  
 3855, 346, 2501  
 5280, 1833, 1878, 1888  
 9277, 2059  
 9962, 1822, 1830, 1833  
 15435, 2014  
 16536, 2600  
 16632, 2472  
 22245, 1833, 1878, 2618  
 23619, 2607  
 24083, 345  
 24618, 2540  
 24782, 1562  
 24880, 2602  
 26072, 1878  
 28376, 1830, 1833, 1878,  
 2049  
 28773, 345

## 1905

1286, 2608  
 1595, 2128  
 2817, 2014  
 2880, 382  
 2895, 2608  
 4534, 2128  
 4680, 2600, 2601  
 6075, 2128

6751, 343  
 7543, 2601  
 7993, 2600  
 9441, 2128  
 9998, 345, 1263  
 11205, 502, 2294  
 11512, 2046, 2047  
 12277, 352, 1856  
 12278, 352, 2049  
 14316, 1871  
 15029, 1358  
 15372, 2128  
 16129, 2603  
 16583, 2173  
 18318, 2602  
 19330, 349, 666, 696,  
 784  
 22525, 2032  
 24117, 2603  
 26201, 1833, 1841, 1878

## 1906

1497, 2601  
 1931, 2237  
 1939, 351  
 2156, 358  
 2650, 350  
 3450, 2049  
 3661, 2128  
 4577, 1856  
 4597, 342, 1940  
 4957, 2474  
 5879, 2603  
 6220, 2601, 2602  
 6613, 2602  
 8011, 2603  
 8045, 2173  
 8727, 359  
 10228, 2015, 2018  
 10228A, 2015  
 12016, 2472  
 12718, 359  
 13428, 2601  
 14255, 352, 590, 1697,  
 1842  
 16271, 2014  
 16598, 384  
 17667, 2472  
 17767, 2600, 2602  
 18057, 2601  
 19707, 349, 356, 445,  
 1340  
 19562, 2602  
 19956, 2601  
 20037, 2030  
 21493, 2030  
 23196, 2618

23683, 361  
 24067, 348, 355, 597,  
 599, 784, 1822,  
 1842  
 25647, 1618, 1621  
 26502, 355, 2474  
 26503, 356, 2501  
 27527, 1358  
 27952, 2601  
 27953, 2601  
 27954, 2601

## 1907

592, 342, 1969  
 791, 1562  
 2026, 350, 522  
 2026A, 354, 1697  
 2026B, 354, 1697  
 2461, 365, 2501  
 2511, 362  
 2998, 2173  
 3103, 363, 1698, 1700  
 5016, 365  
 5019, 2128  
 5020, 2128  
 8369, 359  
 8840, 2601, 2602  
 9537, 355, 1866  
 11397, 1833, 1878  
 11928, 1833, 1841, 1878  
 13023, 806  
 14071, 2603  
 14073, 2603  
 14098A, 2601  
 14655, 101, 2081  
 15536, 1868  
 17168, 2601  
 18250, 2601  
 20125, 605  
 21087, 2600  
 21789, 2601  
 21799, 2601  
 22371, 2173  
 24214, 1833  
 24284, 360, 511, 2025,  
 2237  
 25217, 2601  
 25274, 363, 376  
 26915, 364, 2480  
 28723, 362  
 28743, 384

## 1908

413, 1833  
 993, 1247  
 1715, 1856  
 4390, 1830, 2049

4956, 2173  
8542, 1884  
8727, 368  
8742, 2173  
9313, 2049  
12549, 2602  
19263, 370  
19735, 368,1878  
20111, 839,2533  
24806, 2472  
24809, 2173  
24811, 368,2173,2390  
25726, 2472  
26033, 2472  
27201, 370  
27382, 2601  
28538, 628

1909

1148, 1832  
1799, 1878  
2400, 2128  
4145, 2049  
4154, 369, 376,1856  
4767, 844  
4768, 844  
4953, 2603  
5395, 2129  
6554, 361,1891  
7743, 351, 360, 375,  
2025  
8175, 1246  
8945, 41, 374, 388,  
1338,1858,1927  
10578, 375,2474  
11015, 2602  
11340, 1833  
11354, 374,2018,2025  
11364, 844  
11625, 356,1817,1878  
12687, 2173  
12976, 377,1833,1858,  
2049  
13064, 2601  
13390, 431  
13679, 2128  
15306, 384,2174  
15855, 2001  
16199, 377  
17036, 362  
17449, 375  
17827, 2603  
18193, 374,2018,2025  
18503, 435  
19772, 1945  
20305, 2128  
20965, 377, 414

22420, 46,2618  
23992, 844  
24006, 383,1833,1878  
24299, 1815  
24693, 2600  
24723, 2600  
25342, 2600  
25361, 2600  
26657, 377,1856,1866,  
2049  
27102, 373,2049  
28393, 378  
29879, 2128  
29991, 1014

1910

476, 394,1889  
636, 342  
870, 393, 404,1837,  
1909  
951, 395  
1441, 384,1830,1878,  
2025,2099  
1779, 1878  
1790, 424  
1799, 1837  
2039, 2004  
3559, 394  
3603, 393  
4402, 2472  
4959, 385  
4976, 620  
6519, 383,1833,1878,  
2049  
6608, 391  
7748, 384  
8646, 391,1681,1687,  
1878  
8647, 391,1681,1687  
9369, 1141  
9636, 383  
10319, 2603  
10320, 1833,1909,1962,  
2049  
10794, 421, 469,1833,  
1859,1878,1901,  
2027  
10795, 407,2026,2027  
11365, 2046,2047  
12035, 2600  
12406, 383,1816,1825,  
1878,2049  
12422, 409  
12633, 376,1967  
13100, 374, 383,1816,  
1866,1909,1928,  
2018,2025,2030,

13692, 389,1830,1833,  
1960  
14194, 382  
14271, 392, 522  
14293, 393, 404,1837,  
1856,1865,1909,  
2058  
14364, 383,1819,1866  
14586, 1830,1878,2049  
15700, 386  
16932, 399,1822,1833  
17427, 1807  
17602, 2128  
17618, 2128  
18076, 384,2025  
18189, 384, 575,1833,  
1944  
20672, 395, 420, 499,  
501,1910  
21719, 389,1833,1878  
22309, 1801  
24382, 79, 392, 522,  
693  
24552, 2603  
24980, 389, 693  
25274, 395  
26928, 234, 342,2080,  
2086,2174  
27258, 385, 575,1817,  
1858,1866,2023  
28848, 383,2058  
29246, 387, 388,1687,  
1833,1902,2049  
29273, 383,1817,1833  
30398, 389

1911

309, 387  
1157, 2600  
1556, 390  
2064, 1878  
2145, 1878,1913,2049  
3139, 396,1910,1913  
3602, 2128  
3973, 402, 403  
4099, 1869  
4253, 1878  
4648, 2222  
4744, 401,1825,1858  
6241, 386  
6798, 394,1698,1833,  
1878  
7442, 404  
8313, 388,1891,1893  
9559, 2600  
10293, 424  
10324, 424

**Great Britain**

10708, 1833, 1878  
 11728, 393, 1884  
 11941, 1358  
 13239, 1856  
 13860, 1808  
 13861, 1808  
 14142, 400  
 15945, 2049  
 16000, 404  
 16271, 401, 461, 1856,  
     1878, 2540  
 16278, 2047  
 16810, 435, 1833, 1878  
 17259, 1868  
 17626, 1247  
 18519, 2601  
 20975, 40, 230, 398,  
     485, 1832, 1860,  
     1866, 1872, 1888  
 20976, 397, 1819, 1833,  
     1878  
 20977, 396, 450, 499,  
     522, 635, 696,  
     778  
 20978, 408  
 20979, 409, 696, 1833  
 21426, 394, 1833, 1878  
 22237, 401, 411, 590,  
     1733  
 23995, 399  
 24120, 2600  
 24135, 2600  
 24981, 461, 2440  
 25245, 2174  
 25246, 1590  
 25449, 423, 1856, 1923,  
     2049  
 25534, 2174  
 25541, 2472  
 25805, 423  
 25893, 399, 568  
 26036, 1839  
 27491, 404, 415, 1493  
 27969, 1856

**1912**

613, 414  
 822, 404  
 1378, 1856, 2002, 2174  
 1460, 414  
 1573, 1247  
 1598, 1719  
 1599, 2174  
 1600, 1703, 1719  
 2527, 1733  
 2859, 404  
 3042, 2174

3408, 2602  
 3869, 402, 408, 1833,  
     1982, 1985, 1989,  
     2049  
 4044, 414  
 6031, 1823  
 6379, 235  
 6798, 448  
 7292, 402, 408, 1985  
 7687, 411  
 7893, 1182, 1619  
 8990, 412  
 9867, 404  
 10222, 1815, 1830, 1833  
 10706, 410, 435, 490,  
     982  
 10988, 2472  
 12321, 2129  
 12472, 1969  
 12473, 1969  
 12742, 1805  
 12743, 1956, 2004  
 12744, 1969  
 12745, 1969, 2004, 2029  
 12746, 1969, 2021  
 12854, 10, 11, 415,  
     1180, 1181, 1337,  
     1447, 1541  
 12995, 413  
 13225, 2472  
 13239, 407, 1831, 1870,  
     1894  
 14537, 414  
 15080, 2174  
 15868, 414  
 16085, 2607  
 16133, 383, 2058  
 17069, 1808  
 17338, 415  
 17472, 2458  
 17549, 424  
 17574, 403, 1842, 2601  
 17953, 2611, 2616, 2619  
 18822, 416, 1811, 1833,  
     1878, 2023, 2608  
 18824, 2608  
 19381, 1808  
 20527, 409  
 20852, 450, 522, 696,  
     778  
 21367, 1983  
 21368, 587, 1800, 1982,  
     1984, 1986  
 21376, 409, 451  
 21708, 2606  
 22621, 1869  
 22622, 1868, 1869

22623, 1868, 1869, 2049  
 22626, 1869  
 22645, 409  
 22964, 1869  
 23544, 1800, 1984, 1986  
 23728, 432, 1856, 1878  
 23777, 423, 1830  
 24060, 1950  
 24254, 1934  
 24255, 1937  
 26987, 403  
 27227, 413, 421  
 27228, 414  
 27283, 2600  
 28210, 468, 1833, 1878  
 28320, 500  
 28392, 432  
 29963, 1821, 1921  
 29964, 1868

**1913**

507, 2601  
 680, 423  
 879, 1868  
 2178, 421  
 2425, 423, 1878, 2049  
 2465, 414, 454, 1830,  
     1833, 1910  
 2491, 355, 412, 420,  
     1263  
 3063, 1246  
 3334, 2600  
 3849, 419  
 3991, 423  
 4353, 355, 411, 1263  
 4601, 2128  
 4668, 459  
 4940, 1969, 2004  
 4941, 1956, 2004  
 5368, 2128  
 5533, 1256, 1297  
 6035, 10, 11, 415,  
     1180, 1181, 1337,  
     1418, 1447, 1541,  
     1607  
 6210, 2608  
 6387, 21, 416, 1157,  
     1263, 1338, 1418,  
     1833, 1864, 1940,  
     1945, 1953, 2049  
 7038, 422  
 7086, 1833, 1878  
 7137, 1427, 2222  
 7418, 432  
 8283, 1947, 2174  
 8880, 1878  
 9666, 438

- 9985, 1978  
 11741, 422  
 12042, 382  
 12804, 424, 2049  
 13088, 563  
 13433, 2031  
 13882, 1259, 1263, 1282,  
 1287  
 14246, 1922, 1995  
 14767, 591  
 15316, 2607  
 15366, 424  
 15367, 424  
 15368, 424  
 15386, 423, 1935  
 15782, 423  
 15880, 425  
 16905, 355, 1263  
 16940, 423, 1921, 1925,  
 1961, 2049  
 16978, 2047  
 17279, 235  
 17953, 1822, 1878  
 18105, 425  
 18499, 416, 1811, 2049,  
 2608  
 19008, 420  
 19463, 1868  
 20488, 633  
 21015, 410, 423, 1837  
 21913, 329  
 22544, 1978  
 23150, 2128  
 23196, 425, 2174, 2535  
 24702, 2031  
 24839, 2030  
 25182, 422, 1833, 1878,  
 1943  
 26079, 1878  
 26825, 1868  
 28490, 425, 1878  
 29026, 2045  
 29882, 421, 480, 693  
 1914  
 76, 2606  
 273, 476  
 714, 430, 1830, 1833,  
 1837, 1878  
 1049, 430  
 1156, 410, 490  
 1262, 1830, 1878, 1913  
 2326, 2049  
 3370, 44, 416, 1157,  
 1338, 1418, 1482,  
 1940, 1953, 2049  
 4668, 1833, 1878  
 5408, 1887  
 5633, 432, 1837, 1923  
 6447, 1857  
 6893, 2616  
 7137, 2465  
 7880, 431  
 7899, 432  
 8126, 1833, 1878  
 8154, 431  
 9266, 428  
 9270, 408, 481, 1833,  
 2006, 2042  
 10351, 2128  
 10605, 1135  
 10983, 2616  
 12895, 1878  
 13055, 1229, 1243  
 13100, 429, 445, 1833,  
 1878  
 13696, 428, 467, 555,  
 13872, 424, 447  
 14004, 1805  
 14042, 402, 429, 437,  
 1833, 1878, 1986,  
 1988  
 14339, 247, 1468, 1537  
 14675, 1229, 1243, 2174  
 14868, 432  
 15271, 1994  
 15544, 431  
 16692, 2004  
 16957, 496  
 17272, 238  
 18268, 1878  
 19473, 611  
 21016, 427, 693, 833  
 21524, 2535  
 22718, 429  
 23137, 46, 431, 2616,  
 2617, 2620  
 24033, 1868  
 24153, 454  
 24296, 2128  
 24777, 425  
 1915  
 75, 448  
 140, 1830, 1833  
 1894, 477  
 2067, 477, 2501  
 3198, 654  
 3278, 462  
 3321, 450  
 4070, 2128  
 5100, 727  
 6463, 450, 499, 522,  
 605, 635, 778,  
 1410, 2089  
 7773, 428, 467, 483  
 7956, 486, 1830, 1833  
 8046, 412, 428, 467  
 9196, 1621  
 10822, 428, 466, 483  
 11563, 2606  
 12091, 1833, 1856  
 12839, 481  
 14101, 450, 499, 522,  
 605, 635, 778,  
 1410, 2089  
 14655, 2004, 2029  
 14656, 2004, 2029  
 15428, 479, 1878, 1920  
 16215, 444  
 100009, 450, 451, 499,  
 522, 605, 635,  
 778, 1410  
 100180, 425, 449, 2483  
 100629, 727  
 101555, 451, 522, 605,  
 635, 778, 1410  
 101636, 1868  
 101723, 2128  
 102066, 478  
 102310, 510, 2223  
 103682, 2128  
 104173, 1136  
 104780, 480  
 105137, 489, 1945  
 106270, 2606  
 106375, 481, 1698  
 106448, 2607  
 107839, 476  
 108602, 1823  
 110650, 435  
 111539, 424  
 111913, 2540  
 112483, 489, 1830, 2485  
 112624, 591  
 113338, 2499  
 113955, 474  
 114304, 452, 453, 521,  
 2029  
 114619, 2616  
 115855, 40, 1872, 1908  
 116103, 2152  
 116279, 487  
 116590, 2128  
 117824, 1259  
 118891, 452  
 119250, 1260  
 121091, 477, 1817  
 121294, 2031  
 122391, 473  
 122498, 1258, 1261, 1283



## Great Britain

122679, 1878	130277, 41, 459, 831,	138641, 435,2174
122685, 2128	1760	139232, 590, 734,2122
123628, 443,1878,1936,	130351, 441	140784, 577
2485	130399, 454	141210, 2128
123712, 460,1951,1952	130402, 443, 584,1984,	142615, 488,1924
123752, 2128	2396	143187, 564
123784, 473,1136,1797	130651, 541	143253, 523,2371
124515, 442, 460,1878,	130962, 2128	143260, 1283
1882,2019,2483	131082, 485,1802,1862	143280, 527
124520, 459, 549	131084, 460	143748, 467
124542, 454	131093, 460	143891, 444, 508
124702, 460	131273, 2128	145128, 570
124763, 483, 485, 579,	131357, 478	145318, 476
582, 585,1913,	131369, 483,1862,1878,	145510, 1878
582, 585,1863,	1913	145511, 402, 437, 494,
1878,1913,1978,	131379, 454	1986
2032,2483	131384, 447,1698,2483	145524, 411, 490
124807, 489,1878,1894	131389, 1956,2004	145525, 411, 490, 693
124844, 485, 582,2483	131628, 488	145544, 538
125153, 447, 744, 850,	131641, 438,2483	145610, 565
2164	131647, 458,1830,1865,	145611, 565
125261, 476	1878	146092, 555
125617, 474	131669, 453,1862,1878,	146212, 564,1878,1892
125636, 474	1882,1913,1988	146367, 2174
125926, 460	131907, 436,2438	146957, 1278
126013, 1805	131911, 435,2158,2438	147001, 675
126056, 2004,2029	131916, 2158	147119, 1869
126311, 1844	131938, 2126	147173, 1288
126511, 1823	131916, 436	147416, 591
126682, 2128	132283, 58, 59, 453,	147904, 129, 145, 455,
126989, 483, 579, 582,	520,1595,2029,	506,2563
1978,2484	2038,2040	147908, 539,1823
127027, 462,1830,1878,	132383, 2029	147909, 1823
1891,1913,2392	132553, 563, 812	148117, 1943
127159, 1018,2207	132755, 446	148139, 1823
127615, 449,1863,1878,	132757, 446	148190, 1165
2053,2484	132996, 458,1878,1910	148366, 1823
127678, 450,1863,1878,	133180, 443,2159	149317, 46,1576,1807
1913,2053,2395,	133353, 58, 59, 453,	149318, 1224
2484,2491	520,1595,2029,	149319, 46,1483,1576,
127909, 2128	2038,2040	1807,1813,1878,
128215, 453,1830,1863,	133972, 1830	2581
1878,1888,1913,	134228, 448,1878	149320, 44,1420,1537,
1986	134250, 1294	1687,1940,1953
128274, 452, 453,1878	134565, 480	149688, 1285
128282, 454	134899, 439,2485	149691, 2128
128372, 2004	136141, 443, 506,1358	150989, 569, 578,2306
128640, 2126	136489, 487,1823	151396, 441, 498
128659, 460,1878,2059	136927, 583,1796	151405, 572
128974, 101, 441,1878,	138078, 474, 498,1910,	152350, 1244
2483	1943,1981,1998	152351, 1244
129024, 2128	138113, 1809	152914, 2618
129033, 441, 583	138116, 449,1671,1699,	154157, 48, 495,2024
129301, 482	1719	154334, 58, 59, 520,
129630, 482,1817	138226, 461, 542,2440	635,1595,2029,
129698, 443	138371, 2031	2039,2040,2041,
130029, 484, 580, 581	138379, 580,1863,1902	2398

- 154579, 588  
 154942, 1806  
 155775, 582  
 155778, 2030  
 155836, 568, 584  
 156080, 550  
 156117, 583  
 156121, 1995  
 156137, 1165  
 156142, 584  
 156152, 568  
 156527, 96, 576, 1338,  
 1340, 1571, 2443  
 156752, 43, 558, 1878,  
 2565, 2580  
 157119, 96, 1338, 1340,  
 1571  
 157120, 2443  
 157126, 509, 1878, 2433  
 157578, 1287  
 157982, 1240  
 158340, 499, 500, 2223  
 158521, 580, 1862, 1878,  
 1913, 1930, 2484  
 158836, 1823  
 158851, 579  
 160225, 521, 1830, 2040  
 160859, 498, 2101  
 161564, 559, 1878  
 162759, 2174  
 163016, 85, 1418, 1687,  
 1940, 1953  
 163017, 82, 1420, 1484,  
 1687, 1940, 1953  
 163018, 83, 1421, 1687,  
 1940, 1953  
 163271, 86, 1488, 1575,  
 1807  
 164032, 1830  
 164033, 1830  
 164374, 40, 89, 112,  
 238, 1383, 1432,  
 1594, 1610, 2029  
 164375, 39, 58, 174,  
 253, 272, 1431,  
 1535, 1591, 1592,  
 1594, 1596, 1603,  
 1610, 2039  
 164377, 39, 1535, 1591,  
 1594, 1610, 2039  
 164384, 60, 1289, 2029,  
 2038, 2569  
 164385, 60, 1289, 1595,  
 2029, 2039, 2569  
 164386, 60, 1289, 2029,  
 2038, 2569  
 165085, 577  
 165164, 106, 500, 511,  
 605, 607, 608,  
 636, 2174, 2199  
 165439, 550, 1924, 2027  
 165519, 49, 101, 213,  
 220, 500, 752,  
 754, 852, 2076,  
 2088, 2090, 2091,  
 2111, 2118, 2132,  
 2365, 2372  
 165743, 1233  
 166249, 1936  
 166767, 60, 89, 1383,  
 1725, 1823  
 167143, 529, 559  
 167199, 1238  
 167201, 1238  
 167458, 573  
 168676, 539  
 168838, 576  
 168986, 2116  
 169232, 48, 2605  
 169536, 493, 500  
 169741, 499, 501, 2307  
 169962, 564  
 170562, 564  
 170568, 48, 2605  
 170608, 2130  
 170964, 503  
 171094, 2030  
 171125, 2174  
 171432, 145, 2661  
 171661, 46, 86, 1488,  
 1575, 1576, 1687,  
 1807, 1940, 1953  
 171780, 2498  
 172573, 543  
 173021, 60, 1570, 2518  
 173507, 2446  
 173538, 1278  
 173750, 1809  
 174635, 545  
 174660, 58, 61  
 175077, 1284  
 175485, 501, 2307  
 175486, 501, 2307  
 175746, 520  
 176034, 501, 2307  
 176367, 525, 1878  
 176420, 59, 1431  
 176535, 510, 714, 2223  
 177189, 1285  
 177268, 1863, 1878  
 177362, 1823  
 177536, 567  
 177809, 84, 1224, 1428,  
 1663, 1675  
 177810, 83, 84, 87,  
 89, 205, 1425,  
 1428, 1663  
 177868, 501, 852, 2076,  
 2079, 2206  
 178152, 1243  
 178842, 684  
 178868, 2078  
 178946, 500, 2310  
 179208, 58, 520, 1902,  
 2027, 2560  
 179234, 501, 642, 852,  
 1878, 1891, 2075,  
 2076, 2078, 2206  
 179384, 504, 530, 556,  
 2222  
 181085, 500  
 181330, 1244  
 181391, 86, 2224  
 181392, 85, 241, 1426,  
 2465, 2468  
 181393, 84, 85, 1348,  
 1424, 1426, 2465  
 181394, 86, 2071, 2224  
 181395, 82, 1347, 1424  
 181696, 48  
 181697, 48, 2579  
 181706, 490, 2434  
 181750, 611  
 182166, 61, 213, 521,  
 1885, 1984, 2088,  
 2365  
 182488, 509, 824, 1798  
 182780, 702  
 182820, 559  
 182830, 173, 493, 504,  
 510, 556, 607,  
 608, 2317, 2223,  
 2236, 2242  
 182844, 510, 2223  
 183806, 578, 2307  
 183882, 1244  
 183908, 93, 1412  
 184197, 524, 1830, 1913,  
 2007  
 184449, 2174  
 184462, 565  
 184495, 1891  
 184533, 94, 1238, 1412  
 184671, 522, 1830, 1878,  
 1913, 1984  
 184825, 100, 112, 1273,  
 1289, 1337, 1453,  
 1486, 1607  
 184964, 510  
 185718, 1244  
 185757, 1278

## Great Britain

186107, 41	198023, 49, 213, 220,	1575,1581,1836,
187634, 228	221, 754, 819,	205461, 2488
187638, 727	852,1583,2076,	205463, 573
187639, 59,1431	2091,2107,2118,	205502, 2303
187847, 1830	2132,2191,2365,	206113, 578, 715, 960
187964, 511, 622,2270,	2372	206520, 1796
2299	198392, 581	206724, 1812
188774, 2617	198975, 584	206770, 43, 558,1374,
189416, 566,1796,1799	199007, 1279	1561
189561, 584	199754, 511,2271	206818, 106, 511, 623,
189942, 1830	199923, 1927	760,2200,2331
189973, 2370	200160, 288	207144, 566
190269, 491, 502,1856	200186, 590, 734,1817,	207499, 1256
190313, 504,2280	2122	207562, 225, 522, 603,
190694, 566,1798,1816,	200739, 235	605, 633, 696,
1916	200815, 84,1422	773, 778,1408,
190732, 590, 598, 734,	200816, 83,1225,1241,	1410,2089
2122	1422	207711, 611
190792, 502	200827, 85, 301,1225,	208193, 41,1177
191120, 546,2309	1241,1450	208685, 154, 579, 643,
191553, 511, 622,2242	200834, 82, 84,1424,	1494
192108, 515,2025,2031	1429	208689, 505
192173, 505	200873, 540, 619	209125, 61, 213, 635,
192994, 578,2307	200892, 2002	2088,2365
193524, 1983	200922, 502	209128, 1809
193646, 505,2280	201488, 584	209633, 530,1863
193866, 241	201510, 153, 579, 722,	209697, 119,2215
193912, 501,2307	1708	209722, 1267
194144, 1920	201664, 441	209727, 1830,1913
194244, 501,2307	201665, 441	209849, 494,2306
194666, 100,2081,2104	201882, 2488	210108, 61, 213, 522,
194693, 1243	202154, 525,1842,1862,	635,2089,2104,
194719, 516, 626	2473	2365
194727, 1834	202157, 493, 556, 675	210266, 61,2142
194840, 173, 511,2299,	202306, 55, 63,2523	210484, 562, 616, 690
2317	202360, 2248, 507	210862, 737
195569, 1232	202835, 584,2436	211167, 585
195600, 235	202964, 588	211178, 568
195619, 284, 787	203092, 49, 138, 168,	211720, 122, 244, 493,
195849, 502,1836,1913	213, 216, 852,	499, 502, 551,
195920, 501,2307	2078,2090,2091,	2211,2222,2271
195977, 519,2491	2111,2365	584,2084
196008, 575,2552	203310, 1980	212029, 619
196008, 2552	203346, 83, 89, 205,	212864, 1226
196324, 575,2552	1420	213138, 2116
196518, 576	203347, 83, 89, 205,	213593, 538, 716,2208,
196641, 590, 734,2122	1428	2284
196654, 514,2434	203599, 590, 693, 734,	213631, 557
196952, 62, 144,1584,	2122	213743, 2617
2225,2227	203713, 524	213908, 560
196953, 62, 144, 180,	203714, 524	213914, 530
1584,2225,2227	203847, 583,2059	213931, 2174
196954, 62, 144,2226,	204179, 511,2271	214112, 551,2279
2227	204196, 596	214246, 530,2237
197281, 62, 144,2226,	204280, 494, 556, 619,	214293, 1823
2227	2276	214330, 513,2306
197809, 619	205195, 58, 141,1567,	214765, 712,2297

214934, 727,2504	222177, 584,2605	229075, 627
215000, 1286	222881, 2617	229298, 1268
215012, 577	223255, 2491	229585, 2617
215222, 576	223891, 1905	229674, 48
215373, 530, 672,2235	224077, 209, 502,2213,	229678, 254,1232,1457,
215417, 49,2122	2222,2232,2271,	2135
215783, 530, 672	2350	229714, 633,1800
215823, 58,2041	224218, 577,2157	229715, 633
215860, 505,2315	224359, 503,2306	229958, 655
215873, 2222	224363, 493,2271	230025, 297,1579,2607
216113, 2143	224404, 514, 516, 624,	230063, 625, 626
216307, 2174,2497	2085	230187, 2137,2174
216368, 1269	224405, 69, 109,2085	230447, 724
216648, 57, 96,1486,	224487, 129	230587, 2489
1488,2491,2495	224502, 284	230663, 91,1830
216838, 530,2222	224569, 727,2504	230813, 49,2086
216853, 509	224571, 231, 727,2504,	230965, 727,2504
217003, 557,2104	2530	230966, 2504
217166, 91,1748	224572, 727,2504	230967, 2504
217287, 522	224681, 102, 137, 180,	230968, 2504
217467, 494, 691	222, 499, 607,	230969, 2504
217557, 251, 839, 909,	2211,2285,2307,	231129, 699
2531,2533	2323	231161, 93,1830,1883
217605, 574	224848, 55,2524	231206, 712,2297
217685, 1245	224925, 102, 138, 143,	231260, 712
218271, 581, 724	173, 179, 220,	231455, 717,2274
218272, 581, 724	222, 528, 607,	231800, 88, 206,1113,
218913, 97, 580,2099	750, 966,2209,	1763,1768
219106, 2116	2211,2212,2284,	231801, 90, 206,1113,
219333, 531, 642,2082	2286,2288,2294,	1641,1768
219349, 102, 138, 143,	2317,2323,2452	231802, 89, 91, 206,
173, 179, 220,	225659, 277	1113,1768
222, 499, 528,	225678, 503,2271	231803, 89,1113,1722
605, 606, 717,	225862, 113, 531,2279	231804, 90, 132,1113,
750, 780,2209,	226142, 100,1464,1833,	1384,2325
2211,2242,2266,	1834	231805, 89, 206,1113,
2284,2285,2286,	226167, 2497	1722
2288,2294,2317,	226248, 772, 995	231806, 91, 161, 206,
2323	226256, 62,2339	1113,1643,1645
219674, 2108	226309, 557	231807, 89, 205, 206,
219898, 2187	226822, 706	293,1113,1383,
219926, 122, 579	226948, 610, 646,2273	1428
220303, 1009,2248	227134, 734,2122	231808, 205,1113,1338,
220505, 180, 222, 502,	227146, 687,2238	1398,1644
528,2282,2307	227147, 633,1800	231809, 88, 161,1113,
220721, 549	227183, 102, 137, 180,	1722
220964, 638	222, 605, 607,	231810, 88,1113,1723
221205, 1297	608,2242,2323	231811, 89,1113,1671,
221256, 540	227854, 2306	1723
221512, 1279	227923, 493,2257,2282	231837, 69,1446
221552, 517,2597	227943, 2307	231897, 665, 716,2208,
221553, 1264	228247, 2497	2235,2325
221944, 518	228518, 532, 642,1840,	232599, 643
222001, 218, 543, 577,	1930	232604, 702
2284	228557, 125, 643,2260	232696, 687
222167, 58,2604,2605	228832, 626	233263, 722
222168, 58, 520,2395	229026, 628	233342, 642, 784

## Great Britain

233367, 1006	241590, 55, 63,2524	246609, 642,2314
233383, 2098	241679, 69,1661	246746, 817
233384, 97	241854, 284	246789, 607,2173
233813, 609,2244	241858, 68,1928	246840, 674,2245
233874, 92,1561	241871, 720	246879, 105, 185, 216,
233891, 619,2400	242165, 624	714, 715, 733,
234140, 592,2558	242240, 2176	745, 960,2078,
234576, 687	242274, 193	2203,2301,2305
234618, 679,1618	242393, 138, 143, 179,	246890, 2498
234818, 737	220, 222, 609,	246984, 502,2213,2222,
234847, 85, 298,1414,	639,2209,2211,	2271
1426	2284,2286,2288,	247223, 1764,1769
235350, 96,2581	2294,2452	247288, 151, 152, 156,
235516, 2492	242711, 138, 143, 179,	596,1850,2417,
235547, 1251	220, 222, 607,	2558
235727, 730	2209,2212,2284,	247514, 652
236037, 502,2294	2286,2288,2294	247611, 1972
236190, 1834,1850,1906	243030, 639,1830	247712, 1165
236336, 2333	243031, 639,1830,2397	247717, 2618,2619
236393, 97,2098,2099	243032, 654, 839	247974, 126,2526
236639, 627	243350, 188, 639,1008,	248147, 110, 272,1583,
237030, 1800	1830,1910,2071,	1584,2309,2375
237090, 2498	2099,2175	248246, 124,1644
237302, 596	243558, 2618	248696, 130,2097,2099
237567, 593, 833	243614, 726,1833,1969	248767, 1905
237573, 680	243722, 643,2028,2032	248832, 104,1578,2343
237575, 680	243737, 67,2278	248858, 612,2257
237591, 680	243738, 67,2260	248994, 124,1644
237685, 1228	243841, 607,2266	249173, 605, 634, 741,
237739, 611,2273	244143, 102, 219, 607,	1169,1397,1406,
237900, 702,1842,1898	967,2323,2324,	1410,1457
237909, 655,2349	2661	249319, 2498
237943, 102, 137, 180,	244148, 734,2122	249322, 2133
218, 222, 607,	244267, 2224,2232	249549, 717,2208
632, 750,2284,	244492, 48,2087	249600, 102,1578,1923
2285,2323	244543, 96,1486,1488,	249726, 693
238253, 94,2020	2496	249842, 1753
238390, 1800	244708, 1155	249946, 107, 168, 272,
238485, 617,1830,1847,	244819, 617	1583,1584,2157,
1851,1852,1853	244936, 662	2348,2375,2484
238520, 719	244947, 106,2141	249970, 2047
238566, 720	244979, 107,2141	250199, 620
238721, 611,2311	245049, 694,2536	250617, 1208,1243
238825, 707, 833	245078, 592, 824,1465	250658, 111
238842, 2115	245098, 119, 124,1876	250683, 2116
238936, 712,2281	245129, 1850,1853,1854	250798, 663,1493,2490
239470, 137, 180, 218,	245467, 1970	250894, 1848,1853,1906,
222, 750,2284,	245469, 118,1970,1972,	1916
2307	2575	250910, 1953
239569, 592,2483	245683, 167,2415	251155, 596,2276
239622, 627	245758, 619, 806,2252	251271, 128,1376
239726, 643,1494	245790, 120,2260	251303, 119,1850
240293, 611,2155	245991, 1252	251373, 107, 614,2224,
240514, 596	246272, 569,1925	2538
240624, 686	246430, 108,1797,2082	251580, 129, 160,2230
240717, 1243	246447, 2413	251680, 686,2238
241149, 91,1644	246526, 593,1951	251979, 102, 128,1377

252085, 627	258562, 641,1009,2327	262537, 592,2280
252176, 118, 152,1347, 1605,2451	258582, 2367	262741, 2174
252203, 665,1850	258611, 114, 120	262830, 674
252240, 597,2279	258628, 2491	262832, 633
252328, 118,2575	258699, 714, 798,2299, 2301,2305	263102, 1180
252632, 720,1922	258874, 103, 173, 218, 750, 775,2146, 2149,2151,2176	263128, 656, 666, 799
252640, 720	258897, 1240	263169, 1753
252646, 601,2279	258960, 2253	263175, 1986,1988
252654, 125,1764	259131, 688	263178, 2256
252661, 105, 623, 760, 2462	259265, 216, 605, 636, 723,2078,2199	263222, 176, 599,2298
252719, 695, 996	259266, 185, 216, 607, 723,2078,2199	263248, 102, 728
252720, 995	259293, 1809	263260, 137, 180, 222, 606,2266,2307
252848, 597	259394, 616	263355, 102,2344
252999, 618,2439	259634, 596,2277	263473, 607
253085, 102, 128,1378	259641, 633, 772	263503, 633
253091, 102, 128,1378	259699, 745	263579, 299, 717,2208, 2228
253328, 1970	259808, 664,2490	263771, 613,1020
253457, 643,2259	259899, 105, 222, 226, 229, 615, 750, 2145,2148,2151, 2176	263810, 602, 692,1686
253521, 1268	259930, 688	263938, 605, 633, 741, 1397,1406,1408
253584, 712	260289, 104,2320	263939, 634, 773,1169, 1408
253854, 1645	260290, 105, 218, 750, 767, 775,2153	263946, 601,2253
253978, 137, 180, 222, 606,2254,2307	260305, 625	264181, 627, 721
254032, 2533	260312, 271, 608,2172, 2174,2301	264261, 654,1769
254041, 1985,1989	260642, 734,2122	264382, 2142
254354, 110, 219,2343, 2355,2356	260650, 641	264550, 844
254667, 2055	261046, 2174	264558, 605, 633
254668, 844	261047, 2174	264640, 638
254695, 2131	261099, 2174	264791, 625, 975
254819, 633	261203, 663,1493,2490	264860, 117,1375
255043, 724	261266, 647	264936, 749,2310
255047, 724, 835	261392, 126,2440	264937, 633,1408
255361, 2498	261399, 1009	265257, 707
255406, 57,1850,1853	261423, 115, 717,2283	265267, 686
255453, 115,1233	261700, 128	265491, 109, 122,1541
255803, 701,1891	261792, 115,2222	265577, 2126
255962, 606,2301	261794, 116,2222	265924, 709
256205, 717,2248	261806, 629,2491	266028, 2054
256229, 665,1848,1853, 1855	261822, 686	266214, 1951
256238, 641, 716,1009, 2327,2329	262131, 638	266300, 721,2032
256663, 632, 753, 769	262157, 630	266358, 1987
256664, 632, 769,1030	262254, 613, 617,2316, 2319	266640, 624,2146,2149
257097, 706	262364, 633	266684, 720
257258, 117,1906	262440, 167,2415	266777, 607,2344
257353, 612,2258	262494, 633	267112, 126,2526
257501, 231,2530	262506, 264, 606,2243, 2266	267163, 675
257622, 625, 975,1875		267164, 675
257654, 611,2233		267187, 684, 726,2370, 2371
257924, 167,2415		267569, 704
257968, 632, 769		267695, 671,2306
258020, 688, 693		267917, 127,1343,2527
258551, 119,2451		268289, 656, 666, 799
		268327, 1009

## Great Britain

268363, 717,2233	272482, 121, 197,2261, 2263	275304, 593
268387, 119,2451	272896, 649,2209	275307, 675,2261
268455, 114,2100	272923, 625	275357, 616,2187
268552, 114,1616,1661	272951, 626	275373, 117,2273
268778, 729	272982, 110,2145	275553, 129, 164,2239
268845, 633	273011, 616,2340	275558, 129, 164,2582
268933, 612,2273	273386, 2181	275574, 2045
269012, 626	273406, 106,2343,2356	275575, 693
269128, 108,2363	273506, 108,2100	275641, 640
269194, 732,2433	273564, 167,2415	275653, 119, 124,1876
269195, 631,2308	273622, 633	275660, 118,1436,1439
269377, 2115	273647, 2182,2187	275747, 663,1493,2490
269529, 631, 692	273692, 127, 222, 809, 2155,2298	275752, 602
269530, 602, 631, 692, 1408	273693, 104, 218, 222, 809,2155	275949, 1885
269531, 103, 205,1414, 1425,1432,1538	273743, 602	275969, 131,2417
269543, 730,1458	273744, 715	276025, 1407
269556, 654	273776, 714	276206, 167,2415
269605, 218, 623,2188, 2200	273810, 633	276542, 2295
269615, 623	273819, 138, 143, 179, 220, 222, 609, 2209,2211,2266, 2284,2286,2287, 2288,2294,2452	276834, 1830
269918, 120, 121, 158, 2245	273820, 137, 138, 143, 179, 220, 222, 609,2209,2210, 2284,2286,2287, 2288,2294	277089, 225, 251, 715, 798, 960,2090, 2091,2118,2132, 2172,2188,2217
269934, 114, 157, 299, 2228,2277	273830, 616	277111, 118,1349,1362
269960, 138, 143, 179, 220, 222, 609, 2209,2212,2284, 2286,2287,2288, 2294	274054, 167,1008,2175, 2176,2415	277163, 729
270025, 678	274074, 105, 604, 743, 2203,2345	277309, 167,2415
270075, 715	274076, 662	277317, 123,1602,1682
270347, 120,1669,1677, 2520	274094, 638, 779, 998, 2244	277414, 607,2344
270351, 120, 157, 158, 2260	274241, 664,2490	277572, 1155
270352, 675,2245	274501, 1987	277602, 184, 623, 750, 760,2146,2317
270428, 610,2257	274521, 1641	277626, 2020
270650, 1966	274550, 686,2244	277721, 111, 225,1382, 1396,1725
270656, 719	274584, 215, 701, 852, 921,2338,2352	277949, 130,2477
270657, 716,1009,2327, 2329	274611, 214, 245,2206	278116, 609, 635,2170, 2193
270809, 609	274690, 1641	278324, 666
270987, 184, 623,2156, 2317	274814, 719	278390, 119,2054,2215
271103, 626	274823, 675,2261	278445, 2497
271107, 619	274841, 103, 127, 141, 163, 175,1698, 2041,2191,2269, 2346,2407,2518	278647, 2499
271425, 711	274892, 1407	278696, 162,1349,2410
271507, 630,2504	274968, 593,2543	278735, 119, 666,1850, 1912
271517, 254,2135	275230, 122, 157,2295	278767, 1457
271550, 672,2214	275286, 225, 634, 635	278814, 108,2096,2100
271589, 715		278956, 664,2490
271898, 165, 299,2228		279047, 117,2505,2521, 2529
272469, 121, 675,2261, 2277		279070, 626
272475, 1238		279133, 121, 212,2256
		279135, 2256
		279139, 115, 251,1820, 2414
		279302, 1179
		279502, 105, 222, 229, 2148,2149,2176

- 279504, 2176  
 279520, 112,2000  
 279583, 1179  
 279671, 2595  
 279771, 666,1912  
 279784, 1231,1235  
 279796, 666  
 279801, 123, 278,1756  
 279864, 121, 199, 208,  
 2239  
 279916, 632, 770, 956  
 280094, 184, 623, 750,  
 760,2150,2317  
 280162, 117,2529  
 280178, 1906  
 280195, 105,2342  
 280252, 737  
 280320, 845,2273  
 280493, 619, 758, 799,  
 856, 857, 985,  
 2331  
 280501, 724  
 280608, 708,2104  
 280698, 113, 218, 222,  
 1587,2155  
 280972, 605, 632, 769,  
 770  
 280989, 106,2220  
 280990, 106,2157,2221  
 281058, 108,2101  
 281068, 711,1914  
 281084, 110, 222, 750,  
 1584,1797,2151,  
 2154,2176  
 281114, 597,2253  
 281117, 1238  
 281213, 597,2253  
 281271, 104, 603,2359,  
 2382  
 281333, 128,2443  
 281351, 1641  
 281352, 246  
 281663, 125,1343,2443  
 281704, 129,2274  
 281803, 115, 839,2524,  
 2533  
 281827, 655  
 281927, 666  
 281993, 2559  
 282036, 103, 171, 172,  
 748, 841,2231,  
 2237,2270  
 282172, 1800  
 282272, 2192  
 282326, 696,2116  
 282369, 710,2432  
 282412, 710  
 282722, 134, 767  
 282723, 134, 177, 740,  
 1568,2569  
 282782, 2251  
 282787, 133, 170,2085,  
 2097  
 282788, 133, 598, 821,  
 822,2083  
 282789, 597, 822  
 282790, 133,2083  
 282791, 133, 821, 822,  
 2083  
 282793, 133, 821,2083  
 282794, 133, 598, 821,  
 2083  
 282853, 298, 718,2275  
 282980, 147, 845,2174,  
 2524,2532  
 283019, 624,2149  
 283023, 613,2597  
 283024, 614,2597  
 283081, 180, 218, 222,  
 608,2296,2307  
 283109, 139  
 283112, 1875  
 283139, 166, 204,2097,  
 2113  
 283140, 166,2109  
 283162, 1921  
 283181, 154, 190, 789,  
 978,1664,1708,  
 1711,1712,1730  
 283253, 179, 180, 218,  
 222, 607, 608,  
 2286,2296,2307  
 283281, 675  
 283319, 844  
 283595, 666  
 283619, 163,1982,2046  
 283781, 708  
 283952, 152,2449  
 283989, 605, 754, 788,  
 853  
 284143, 620  
 284242, 825  
 284298, 149, 190, 882,  
 1664,1709,1741  
 284348, 1970  
 284358, 907,1685  
 284376, 135, 141, 607,  
 780,2211,2221,  
 2323  
 284415, 629  
 284435, 1806  
 284582, 604, 605  
 284588, 667  
 284589, 1987  
 284652, 148, 157,2261  
 284751, 617  
 284798, 141, 222, 750,  
 775,1797,2151,  
 2154,2176,2205  
 284907, 2489  
 284999, 152,2354  
 285049, 617,1993  
 285066, 133,2186  
 285090, 667, 669  
 285096, 165,2248  
 285104, 144,2227  
 285331, 1769  
 285355, 152, 237,2451  
 285431, 137,2519  
 285582, 640  
 285641, 139, 169,1586,  
 2266  
 285829, 164,2582  
 285858, 667,1741  
 285863, 133,2186  
 285886, 707  
 285941, 137, 218, 750,  
 1584,2151,2154,  
 2176  
 285942, 141,2221  
 285948, 143, 222,2156  
 285968, 142, 144,1587,  
 2267,2287,2295  
 285969, 142,1587,2267,  
 2287,2295  
 285973, 718,2319  
 286006, 715,1914  
 286331, 148,1645,1769  
 286332, 147,1645,1748,  
 1769  
 286377, 1155  
 286466, 164,2495  
 286619, 1233  
 286620, 1233  
 286724, 1804  
 286761, 144, 222, 229,  
 2152,2156,2176  
 286789, 151, 154, 190,  
 1437,1839,1875,  
 2417  
 286850, 612  
 287064, 652  
 287116, 1905  
 287124, 158,1921  
 287135, 678  
 287204, 142, 222,2152  
 287214, 844,2273  
 287461, 729  
 287540, 642,1408  
 287609, 844, 845,2273  
 287635, 165, 839,2524,  
 2533



## Great Britain

287651, 675,2246	291118, 142, 144, 179,	294137, 164
287880, 140, 622, 758,	1587,2286,2287,	294158, 156,1809,1850,
1716,1740	2295	2418
287940, 145,1857,2409	291360, 667	294226, 678
288143, 150, 190,1437,	291386, 145,2571	294227, 678
1463	291433, 662	294251, 166,2582
288213, 626, 800	291434, 662	294261, 1885
288221, 649,2398	291445, 134,2356	294262, 166,2404
288222, 133,2186	291765, 677	294415, 693, 812
288223, 2507,2529	291773, 668,1711	294485, 152,1378
288244, 1969	291814, 613	294572, 728, 914,1681
288546, 1155	291816, 142,1587,2267,	294623, 164,2177
288549, 626	2287	294626, 667
288592, 152,1571,2350,	291890, 715, 829,2462	294636, 782
2432	292180, 143,1586,2267	294805, 2181
288612, 234,2080,2086,	292181, 144,2267	294911, 1969
2215	292253, 705	294912, 1802
288655, 677	292398, 696, 838	294987, 147,2572
288657, 605, 774,1408	292452, 142,1586,2287	295035, 602,2170
288758, 159,1568	292453, 142,2267,2287	295043, 135,2196,2199
288782, 688,2587	292561, 159, 204,2112,	295054, 603,2130
288997, 1172,1240,1457	2113	295118, 2489
289063, 153,1670,1717,	292608, 160,2112,2113	295119, 2499
2159,2575	292627, 2187	295228, 597,2604
289233, 2116	292801, 1180	295237, 676,2256
289321, 2130	292929, 149, 190,1664,	295238, 668
289373, 1852,1922	1711,1741	295257, 718,2274
289496, 613,2473	293006, 165,2274	295275, 662
289511, 663, 664, 801,	293022, 134,2324	295354, 2116
1493,2490	293052, 164,2594	295366, 2022
289523, 151,1875,2417	293067, 155,2417	295383, 668
289807, 676,2246	293269, 731,2028	295486, 798, 824
289853, 622	293316, 155, 200, 789,	295578, 158,1570,1571
289936, 107,1374,1562	1435	295579, 603,2243
289959, 667	293350, 151,1379,2521	295582, 140, 173,2317,
289972, 632, 770	293391, 720,1945	2345,2348
289973, 667, 780	293416, 166,2109	295591, 747
290144, 665,2595	293434, 1905,1918	295641, 724
290177, 156,2241	293435, 244,1905,1970	295797, 699,2504
290192, 2054	293452, 1573	295936, 2168
290263, 146,1008,2174,	293453, 257,1573,2404	295940, 151, 787,2047
2175,2178,2182	293480, 856	295942, 150,1797
290327, 844	293485, 151, 156,1850,	296011, 610
290377, 160,1385	2417	296017, 623
290523, 650	293717, 856	296047, 928,2259
290570, 622, 758	293724, 688	296172, 724, 835
290571, 140, 622, 758	293732, 732,1928	296333, 1179
290693, 1008,1015,2175,	293757, 155, 200, 789,	296344, 135,1561,2129
2181	1411,1413,1435,	296450, 135,2160,2543
290717, 1982	1492	296451, 135,2356
290720, 156,2262	293766, 155, 195,2220	296674, 135,2394,2406
290801, 162	293857, 602	296675, 135, 260, 851,
290833, 2101	293858, 134, 603,2359,	2024,2406
290989, 145,2570	2374	296759, 603,2330
290992, 715	294008, 147,1897	296796, 152,2417
291001, 797, 839	294037, 662	296974, 716, 830,1009,
291067, 696,2198	294137, 2239	1920

297186, 165,2318	299319, 668	301562, 669, 800
297364, 1008,2175	299326, 669	301564, 148,2262
297374, 676	299342, 605	301567, 600, 738,219
297463, 668	299343, 138, 180, 222,	2345
297607, 1041	2268,2307	301568, 600, 738,220
297676, 154,1797	299349, 137, 222	2345
297679, 723	299405, 604,2111	301655, 154,1858
297712, 134, 603,2359	299487, 2054	301734, 604
297749, 155,1670,2441	299511, 669	301755, 670
297766, 1711,1712,1741	299512, 669	301759, 162, 184,196
297766, 154, 190, 789,	299520, 664,2488,2491	2465
1664	299781, 136,2053,2394,	301878, 721
297778, 834, 835,2121	2406	301879, 721
297848, 135,2323	299782, 225,2406	302115, 210,2367
297897, 161,2296	299787, 676,2311	302174, 670
297993, 162, 706,1921,	299849, 136,2322	302191, 150, 239,143
2542	299900, 655,1885,1986,	1484,1486
298084, 668	2589	302208, 607, 608,235
298087, 655,1408	299903, 648	302268, 662, 801
298098, 662,2280	300140, 603, 850,2394	302269, 662
298137, 730, 839	300157, 698,1925	302280, 670,2398
298178, 1179	300166, 160,2113	302321, 1824
298207, 603,2359	300246, 716	302361, 604,2345
298349, 983	300299, 718,2283	302363, 271, 604,234
298371, 630,2473	300357, 651,2544	302515, 661
298423, 690,2587	300418, 1916	302588, 201,1670
298605, 167,2415	300496, 2528,2529	302592, 609,2379
298608, 136, 177,1574,	300563, 664, 667, 669	302615, 150,2417
1968,2417	300611, 158,1568,2470	302616, 150
298609, 167,2415	300672, 721,2099	302667, 154,1798,252
298616, 136,2394,2398,	300824, 614	302698, 154,2398
2417	300894, 184, 229, 760,	302775, 137,1587,214'
298631, 2528	2176,2180,2317	2163,2307
298667, 605	300923, 669	302858, 165,2361
298699, 137, 750,2209,	300924, 153,2023	302961, 202,1976,197'
2284	300929, 138, 180, 222,	1978,1992
298705, 237,2488	2307	302993, 206
298819, 614, 755,1409	300942, 122,1654,1673,	303006, 791
298888, 707,2587	1677,1711	303056, 204,2113
298914, 1914,1972	300991, 669,2505	303098, 821
298933, 750	300998, 138, 216, 217,	303099, 821
298982, 685,2462	222, 852, 931,	303129, 184, 760,231'
298993, 138, 222,2209,	2088,2090,2111,	303134, 820, 821,140'
2268	2195	303135, 821
299042, 179, 603,2360	301017, 696, 886	303136, 822
299058, 136,2150,2158,	301036, 669, 978	303137, 822
2163	301088, 1233	303152, 172, 762,241'
299064, 1262	301133, 2559	303168, 154,2398
299065, 136, 175, 851,	301221, 736,2438	303169, 741,2394
1968	301335, 722,2197	303179, 831
299066, 175, 260,1968,	301415, 716	303286, 738,2345,235'
2394	301428, 136,2597,2598	303432, 823,1739
299067, 175, 225,1968,	301439, 165, 839,2525,	303482, 1245
2394	2533	303485, 838
299228, 134,1372	301490, 159	303491, 822
299234, 668	301497, 137,1808,2406	303493, 822,1681
	301549, 139,2273	303494, 835, 836

## Great Britain

303495, 835	305946, 194, 240, 301,	308170, 855
303516, 177,1568,1901	1440,1451,1591,	308173, 172, 178,2231
303560, 1968	1625	308210, 762
303631, 2488	305947, 1712,1730,1741	308230, 1808
303742, 829	305947, 190, 789,1664	308242, 2262
303772, 753, 770	305960, 1934,1946	308242, 196
303898, 177, 740,2569	305992, 740	308271, 170,2085
303915, 234,1577,1973,	306050, 839,2382	308272, 170,2086
2053	306052, 234,2080,2086	308273, 170,2086
303917, 234,2080,2086	306067, 749,2310	308284, 193, 208,1954,
303936, 1973	306105, 801	2084,2457
303996, 736,2438	306116, 171,2451	308322, 177, 226, 774,
304156, 753	306125, 212,1452	1408,1600,2151
304227, 761	306132, 783, 787,1708	308323, 226, 773,2151
304276, 203,2609	306140, 171,1579,1904	308348, 172, 741,1349,
304278, 758,1737,1740	306242, 194,2554	1406
304279, 759,1740	306397, 178, 740, 938,	308350, 2097
304334, 824,1944,2544	2586,2591	308358, 2504
304350, 802	306452, 1939,2216	308395, 194,1897
304596, 740, 742, 744,	306531, 838, 915,1018	308524, 1955
745, 874,2165,	306534, 185, 765,1698,	308563, 2113
2307,2317	2201,2328	308564, 2097,2113
304612, 192,2577	306611, 213, 749,2148,	308587, 177, 742,1600,
304632, 184,2527	2307,2317	2554
304674, 216, 754, 852,	306637, 917,2301	308605, 185
931,2090	306693, 829,2462	308657, 183,1567,1943,
304717, 167,2415	306857, 161, 190,1437	1951,1994
304722, 212,1082,2598	306876, 673, 787,2155	308658, 183, 223, 261,
304739, 195, 196, 280,	306877, 757,2224	1943,1993,1994
305,2283,2295	306911, 779	308708, 2024
304759, 1809	306981, 180, 222, 750,	308731, 620, 824
304787, 199,2239	2268,2307	308733, 172, 742,2231
304804, 198,2246	307085, 1848	308757, 184, 760,2317
304806, 752	307289, 178, 741,1577,	308780, 787,2235
304855, 781	1999,2395,2407	308798, 175, 742
305096, 821	307290, 175, 178, 741,	308937, 802
305098, 819,2599	1577,1968,1999,	309017, 841,2053
305147, 770	2394,2408	309019, 1082
305148, 1802	307291, 175, 178, 741,	309053, 973
305189, 164, 833,1578,	1968,1999,2394	309087, 718,2274
2525,2586	307292, 178, 741,2042	309148, 2425
305230, 199,2241	307361, 193,1573,2418	309153, 209,2350
305238, 819	307392, 822,2397	309158, 2127
305257, 179,2360	307399, 785	309194, 192, 283,2184,
305490, 193,1347,2545	307431, 50, 739,2527	2418
305515, 803,2441	307459, 178,2449	309201, 226, 773, 958,
305560, 180, 222, 750,	307462, 225, 741, 742,	2079,2151
2209,2284,2307	2554	309203, 783
305566, 750,2284	307499, 785	309204, 2076
305594, 782,1000	307508, 755	309237, 1245
305601, 790,1050,1408	307528, 1933	309280, 824, 828
305653, 721,1561	307560, 185,2471	309377, 740, 742, 744,
305661, 190, 821,1664,	307714, 736,2437	745,2165,2307,
1712	307813, 195, 196,2262	2317
305674, 784	307868, 830	309558, 784, 785,2080
305694, 754,2585	308117, 836,2588	309577, 760
305745, 810,2543	308169, 855	309755, 189,2402

309840, 803,1904	311741, 784,2354	313165, 2114
309876, 173, 750, 775, 2149	311763, 2114	313198, 804
309899, 180,2149	311766, 248	313233, 186,1693
309913, 174,1577,1581, 2570	311779, 198	313234, 186,1693
309919, 1555	311784, 208, 820,1954, 2084	313235, 186,1693
309951, 174,2406	311790, 262, 773,1408, 2077	313273, 836,2587
309964, 245, 803,2206	311795, 198,1911,2324	313350, 805
310045, 742, 744,2171	311803, 2120	313404, 744, 850, 87 2164,2307
310046, 743,2089,2171	311877, 1852	313405, 173,1896,189
310062, 883,1988	312034, 2120	313408, 759, 886
310126, 664,2488,2490	312046, 829, 830	313410, 204,2403
310141, 803	312095, 226, 774, 958, 1408,1414,2151	313418, 769, 771
310181, 663, 664, 801, 1493,1941,2490	312096, 226, 774, 958, 2151	313450, 172,2237
310340, 235	312098, 773, 958,1406, 1408	313451, 171,2237
310434, 838	312137, 782	313535, 173,1895
310475, 188,2594	312173, 782	313538, 204,1412,153
310540, 183, 757,2504, 2526	312197, 246	313616, 998
310541, 183,2553	312203, 186, 852,2076, 2090,2092	313619, 808
310556, 825, 841	312232, 784	313651, 1693
310563, 817	312242, 738, 849	313864, 781, 782
310773, 749,2346	312262, 819,2392	313885, 172, 744,169 2121,2206
310779, 181, 218, 752, 2268	312280, 799	313892, 1912
310827, 180, 181, 222, 751,2268,2307	312309, 188,1848,2410	313966, 171,2451
310842, 169,2086	312469, 736,1936,2401	313970, 176, 744,216
310844, 810,2306	312506, 201	313971, 744,1702,230
310845, 176, 743,2196, 2352	312585, 769	313974, 839
310863, 753, 769	312586, 769	313980, 809,2208
310936, 743,2203	312587, 753	313992, 827,2380
311196, 209,2533	312604, 188,1575,1809	314087, 757,1915
311287, 787,2125	312606, 174,2023	314132, 771
311306, 738,2355	312609, 174,2017	314145, 809
311368, 824	312655, 175, 219, 745, 746,2316,2317, 2346	314149, 837,2259
311391, 2120	312671, 784	314208, 172, 173, 21 749,2150,231 2351
311399, 2119	312688, 174, 743,2041	314306, 802,2440
311417, 792,2397	312716, 671	314396, 2041,2191,234 2352,2407
311433, 179, 222,2288	312733, 770	314396, 175, 745
311435, 179, 749, 798, 2299,2305	312915, 200,1720	314402, 2084
311467, 790,2301	312923, 2053	314404, 181,2195
311657, 172, 261, 743, 1994,2570	312992, 182,2509	314414, 182,2191
311664, 202	313072, 210,2189	314446, 745, 767,231'
311675, 180,2307	313091, 201,1352,1361, 1560	314447, 745,2307,231'
311695, 904	313133, 174,1555,1557, 1581,1895,1999, 2570	314451, 2262
311697, 187,1224,1413, 1449	313134, 173, 174, 248, 743,1563,1572, 2405	314501, 175, 745, 74' 2347
311700, 1889		314543, 807,2368
311707, 1020		314555, 754
311739, 1915		314571, 1977
		314651, 211,2300
		314810, 195,2577
		314867, 211, 835,197. 2462

## Great Britain

314913, 758, 857	316982, 171,2327	318464, 2109
314918, 187,1694,1700	316983, 173,2317	318467, 176, 747, 937,
314919, 187,1694,1700	316984, 175, 746,1968	2197
315005, 175, 745,2316,	316989, 265,2318	318468, 747, 934,2307
2317	317019, 298, 831	318567, 191,2329,2424
315227, 202,1568,2413	317025, 2372	318629, 177,2370
315275, 788, 790,1718	317026, 746,2372	318630, 266, 270, 747,
315278, 171,1433,1535	317046, 1233	1572,2117,2375,
315279, 746,1811,1943	317088, 838	2378
315280, 176, 746,1571,	317094, 213	318631, 270, 747,2075,
2439	317097, 213, 217, 775,	2108,2375
315331, 751	2364,2365	318632, 177,2370
315385, 820,2620	317098, 213, 217, 775,	318633, 760, 806
315397, 782	1582,2365	318642, 748,2194
315428, 746,2140	317108, 2115	318643, 270, 748,2375
315432, 2183	317117, 199, 784,2215,	318646, 235, 784, 786,
315434, 2314	2241	2080,2103
315435, 831,2314	317125, 2124	318662, 771
315667, 788, 789,1719	317158, 816	318663, 771
315729, 221, 752,2088,	317330, 209,2405	318664, 771
2191	317333, 790,2319	318818, 820,2566
315766, 186,2028	317342, 1030	318840, 748,2329
315807, 173, 259,2041,	317368, 2114	318868, 1171
2570	317408, 188, 781,2099	318908, 834
315808, 173, 259,1577,	317443, 175,1570,2591	318960, 833
2041,2570	317454, 176, 746,2042,	318967, 788,1714
315832, 2207	2395	318970, 210, 834,2367
315835, 194,2575	317455, 765,1698,2328	318980, 203,1589,1854,
315840, 184,2529	317456, 266, 270,1573,	1875,2412
315902, 1172,1409	2375	318989, 2216
315905, 202,2278	317457, 176, 747,1968,	319001, 1708
316132, 2207	2104	319014, 786, 882,2158
316160, 187,1699,1724	317462, 830	319030, 772
316169, 828,2185,2193	317728, 804	319073, 179, 752,1374,
316276, 840	317824, 162, 184,1968,	1563,1838,2020
316284, 830	2464,2465	319285, 783, 979,1063,
316287, 830	317854, 781	1696
316301, 2529	317855, 781	319291, 254
316302, 191	317867, 754	319294, 791
316321, 202,1961	317871, 191,2551	319308, 181, 754,2253,
316322, 202,1961,2579	317907, 770	2254
316323, 202, 803,1961,	317909, 737	319354, 735,2308
1973,1976,2413	317911, 737	319371, 192,2573
316324, 203,1974	317936, 762, 874,2163	319390, 181, 222, 754,
316325, 203,1854,1973	317951, 856	2268
316521, 172, 746, 766,	317987, 201, 790,1617,	319420, 750
934,1698,2307	1717	319433, 803
316526, 179, 222, 752,	318070, 193,2466	319542, 781
2286	318088, 205,1414,1425,	319584, 907
316538, 1939,2216	1429,1538	319691, 177,1348,1363,
316574, 841	318151, 204,2103	1600,1675
316593, 823	318166, 841	319723, 2560
316594, 823	318211, 835,2121,2142	319736, 804
316638, 828,2184	318250, 209, 833,2377,	319978, 756,2391
316898, 802	2525	320027, 2310
316955, 833,2586,2589,	318255, 210,1665	320041, 234,1577
2594,2595	318366, 758,2331	320345, 2287

320363, 176, 222, 225, 226, 774,2090, 2195	322893, 829,2302	326462, 220,2375
320374, 225, 754,2589	322997, 1171	326471, 900,2121
320410, 1809,2547	323011, 757,2224	326502, 1035,1708
320457, 788	323026, 2224	326515, 850
320488, 2472	323031, 840,2101	326520, 225,2592
320492, 796,2604	323180, 852,2153	326579, 2034
320606, 748	323209, 220, 854	326649, 249,2404
320632, 221,2092,2191	323210, 219,2355	326764, 902
320649, 740,1999,2396	323221, 220,2372	326779, 902
320775, 749	323473, 869,2435	326780, 902
320842, 187, 865,1694	323500, 856, 857,1414	326781, 902
321034, 829,2301	323501, 217, 218,2157, 2183	326815, 234,2080,208
321157, 820,2585,2588	323515, 856, 857	326824, 1876,2424
321189, 2586	323521, 225,2210	326865, 238,1440,148 1605
321222, 231, 251, 839, 2530,2531,2533	323525, 235,1573,2419	326882, 843,2540
321241, 781	323548, 857	326952, 879,1717
321258, 1954	323671, 858,2588	327157, 225,1396
321401, 180, 222, 751, 2209,2286	323693, 904	327164, 882,2105
321575, 833,1739	323731, 246	327165, 232,1716
321648, 833,1687	323732, 246	327212, 898,2448
321651, 191,1357,1462, 2094	323785, 218,2157	327394, 881,2263
321762, 752,2090	323788, 220, 222, 853, 2208	327420, 235, 281,209 2096,2103,211
321977, 799,2589,2595	323790, 217, 225,2090, 2091,2132,2217	327423, 236,2096
322003, 914,1681	323792, 218, 222,2268	327429, 231,2471
322169, 763,2252	323846, 251,2132	327444, 886
322417, 775,2372	323869, 905,1701	327454, 2109
322432, 231, 251, 761, 839, 909,2530, 2531,2533	324025, 257,1573,2404	327635, 235
322454, 840, 845, 868	324061, 2112,2371	327671, 233,2096
322463, 180, 751	324315, 2006	327673, 283,2422
322464, 182,1366	324352, 859	327714, 245,1542
322466, 2053	324650, 218, 852,2347	327737, 233,2096
322537, 2053	324662, 225,2134	327740, 220, 932,212 2190
322538, 2053	324677, 254,2528	327860, 222
322539, 2053	324680, 857,2331	327949, 884,2588
322540, 200,2053,2441, 2565	324683, 219, 853,2344	327969, 846,2559
322541, 200,1885,2053, 2441	324898, 859,2586	328013, 2120
322542, 200,1885,2053, 2441	324899, 217,2371	328190, 194,2054
322543, 200,1885,2441	324911, 886,2506	328247, 221, 222, 85 2193,2194
322551, 2595	325014, 237,2539	328259, 905,1701
322556, 2629	325034, 872,2158	328291, 881,2247
322557, 220, 754,2118, 2372	325115, 1995	328308, 195,2283
322576, 2224	325209, 839	328312, 272, 854,158 2373,2374,237 2377
322730, 191,2094	325224, 865,1739	328336, 845,2532
322737, 181, 220, 222, 2452	325229, 881,2246	328572, 843
322768, 235,2160	325231, 865,1739	328588, 906,1728
	325233, 216, 932,2090	328636, 226,1364,209
	325512, 233,1625,1708	328657, 223,2452
	325822, 866,1741	328911, 216
	325823, 221, 854,2347	328919, 915,2586,259
	325857, 233,2095	328934, 223,2452
	325961, 1685	329049, 883,2259
	326229, 2595	
	326232, 852, 931	
	326461, 220,2076	

## Great Britain

329429, 904	332565, 221,2347	335596, 919
329620, 217,2118	332607, 850	335613, 2117
329659, 218, 222,2145, 2176	332608, 851	335631, 863
329691, 2529	332624, 219,2304	335660, 2606
329704, 906	332635, 876	335775, 874,2553
329718, 915	332756, 1870	335878, 851,2596
329867, 876	332907, 902,2252	335906, 246, 247,1400, 1402,1765
330011, 233,1626	332983, 883	335993, 247,1400
330026, 905	333016, 245,2296	335994, 247,1400
330216, 902,2244	333194, 844	335075, 2554
330253, 902,2244	333236, 902,2252	336217, 226,2078
330265, 842,2588,2589	333242, 895,2588	336219, 2596
330537, 877	333304, 1850	336244, 2202
330552, 854,2439	333504, 221, 222,2183, 2190,2191,2206, 2207	336250, 234,2035,2080, 2086
330575, 906	333554, 2312	336349, 918,1458
330591, 220, 222,2269	333768, 246,1568,2549	336353, 886,2506
330602, 220, 222,2254, 2294	333865, 277, 909,2532	336615, 883,1988
330625, 2006	333902, 245,1543,1558	336621, 226,2151,2155
330652, 244,2278	333926, 225,2092	336668, 864
330677, 248,2443	333949, 2143	336681, 1261
330735, 1878,1971	333991, 845	336718, 2124
330895, 234, 290,1577, 1590,2054,2421, 2426	333993, 845	336732, 2586
330897, 234,1581,2416, 2453	334109, 2110	336938, 235,2263
330904, 881	334174, 2124	336960, 864
330909, 2053	334189, 853	336969, 877,1171
330910, 2053	334195, 221, 222,2191, 2195	337014, 866
330950, 852,2076	334198, 222,2195	337040, 845,2532
330957, 234, 236, 237, 1376,1567,1576, 1602,2453	334207, 853	337041, 845,2532
331214, 248,2526	334217, 853	337052, 854,2439
331229, 217,2091	334243, 872,2531	337053, 851
331260, 906	334265, 251, 277,2531	337073, 231,2530
331606, 1240	334271, 893,2433	337158, 2584
331637, 830	334518, 218,2316	337360, 215,1165
331687, 245,2296	334533, 863	337366, 877,1739
331837, 244, 291,1852, 1970,2579	334543, 219,2317	337409, 866
331903, 237,1601,1609	334563, 222,2176	337410, 866
332003, 2120	334567, 237,1993,2420	337418, 895,2179
332187, 218, 219,2170, 2188	334838, 2079	337433, 2121
332231, 218, 219, 303, 937,2168,2172, 2188,2200	334853, 226,2079,2131	337437, 914,2604
332254, 230, 871	334897, 237,1340,1489, 1601,1654,1708	337445, 920
332255, 230,2528	334986, 883	337501, 223,1573,2433
332256, 871	335020, 908,2334	337524, 249,2456
332258, 977	335074, 236,2329	337547, 2596
332263, 221,2347	335138, 215,2338,2352	337590, 2120
332290, 854,2347	335139, 851,2188,2338	337610, 2106
332527, 854	335180, 852,2334	337746, 745, 904,1088, 2302,2347
	335204, 854,2193	337791, 878, 980
	335206, 222,2322	337813, 216,2150
	335223, 855	337868, 894,2502
	335247, 235,2160	338002, 851,1999
	335582, 223,1994	338024, 851,1999
	335583, 219,2170,2196, 2340	338065, 216,2160
		338082, 989
		338095, 280,2283

338187, 865	340484, 928	342326, 1987
338190, 264,2357	340495, 982,2247	342333, 264,2331,234'
338201, 886,2506	340501, 982	342337, 938,2586
338202, 918,1738	340504, 263,2091,2106	342340, 270,2375
338214, 1022,1458	340505, 263,2091,2106	342391, 300,1352,135'
338224, 996	340541, 264,2269	342429, 260,1574,198'
338269, 946,2182,2186	340555, 259,1409	2394,2407
338329, 834	340570, 281,2096,2118	342444, 967,2397
338340, 1945	340572, 264,2269	342458, 260,1999,258'
338412, 298,2248	340602, 2134	2592
338490, 271,2092,2175,	340636, 272,1372	342596, 987
2176	340651, 997	342651, 931,2078
338507, 997	340927, 938,2586	342673, 1089
338555, 924	340929, 263,2091,2116,	342674, 260,2405,240'
338611, 293,1569,2550	2132	2598
338741, 280,2535	340930, 263,2091,2117	342689, 298,1639,231'
338745, 929,1699	340939, 957	342712, 931,2091,209'
338798, 979	340982, 936,2307	2132
338881, 2110	341009, 2377	342723, 1987
338936, 266,2076	341021, 981,1071,2118,	342730, 1987
338988, 2586	2131	342738, 958
338989, 2133	341031, 957	342739, 958
339045, 997	341034, 272,1584,2375	342740, 958
339235, 977	341057, 932,2363	342742, 990
339238, 277,2530,2532	341075, 932,2090,2112	342743, 1008,2175
339300, 271,2205,2329	341147, 929	342767, 1987
339394, 2472	341148, 259,1582,1698,	342848, 282,2441
339429, 937,1001,2307,	2078	343006, 1010,2249
2358	341151, 282,1594	343016, 1009,1010,224'
339603, 1008,2175	341237, 250,1466,1603,	343031, 1987
339620, 281,2263	1639,1640,1765	343062, 263,2078,209'
339670, 2108,2374	341330, 2123	343099, 984
339733, 982,2330	341388, 259,2365	343104, 990,2159
339762, 2585	341408, 264,2244	343105, 990
339858, 982,2215	341419, 298,2274	343117, 991,2392
339872, 1011,2586	341450, 1240	343121, 271,2169
339896, 259,2309,2359	341516, 282,2137	343124, 266,2156
339936, 281,2398,2400	341781, 1816	343147, 79, 283,118
339990, 1014,2444	341843, 1401	1540
339997, 936,2307	341890, 260,2586,2592	343212, 283,1669,253
340099, 2606	341891, 938,2586,2592	343436, 936,2360
340101, 259,1999,2570	341897, 266,2092,2174	343444, 936,2281
340102, 259,1999,2570	341924, 1007	343502, 937,2254
340164, 1172	342075, 261, 936,2353,	343521, 272,1725
340201, 2124	2379	343531, 1098
340232, 281,2552	342119, 897	343632, 2369
340246, 994	342144, 259,2053,2054,	343655, 978
340324, 168, 262,1074,	2394,2407	343698, 260, 261,219'
2077,2078,2092	342167, 298, 299,1009,	343712, 943,1411
340325, 168, 262,2077,	1684,1744	343748, 298,1743
2078,2092	342211, 260,2395,2407	343791, 2119
340326, 168,2078,2111	342283, 1012	343792, 2119
340372, 1093	342286, 257,1573,2404	343814, 2529
340436, 168, 262,1074,	342288, 282,1341,1574,	343817, 2119
2078	2416	343873, 292,1390
340437, 168, 262	342290, 2438	343889, 1010
340437, 168, 262	342290, 2438	343889, 1010



## Great Britain

- 343947, 928  
 343949, 272,2180  
 343953, 934,2307  
 343965, 2102,2112  
 343986, 958  
 344047, 2596  
 344086, 1165  
 344093, 937,2179  
 344116, 1011  
 344117, 1010,2249  
 344120, 1240  
 344151, 886,2506  
 344155, 261,2379  
 344170, 1007  
 344288, 2187  
 344327, 930  
 344351, 2108,2112  
 344385, 2115,2189  
 344410, 261,2342,2358,  
 2379  
 344413, 261,1980,1987  
 344414, 258  
 344415, 258,2377  
 344420, 272,1598  
 344453, 297,1570,2462  
 344454, 994,2586  
 344471, 1971  
 344480, 273,1398,1753  
 344482, 737  
 344488, 273,1750  
 344510, 273,2188  
 344528, 263,2137,2138  
 344529, 273,1725,1736  
 344554, 927  
 344591, 268,2110  
 344592, 1816  
 344626, 283,1877,2422  
 344638, 1016  
 344645, 189  
 344761, 979,1063  
 344775, 933,2139  
 344833, 1082  
 344873, 254, 973,2117,  
 2121,2135  
 344874, 973  
 344884, 299,2228  
 344982, 2529  
 345022, 935,2335  
 345028, 283,1607  
 345052, 941  
 345069, 1003  
 345176, 2586,2589  
 345207, 2138  
 345208, 1172  
 345235, 1014,1171  
 345396, 2334  
 345405, 2184  
 345408, 929,1464  
 345505, 987,1913  
 345509, 261,2192,2194  
 345521, 261,1943,1994  
 345673, 283,2184  
 345800, 987  
 345875, 2604  
 345970, 981,2398  
 345985, 1154  
 345989, 273,1599,1748  
 346040, 284,1812  
 346055, 2141  
 346267, 263,2138  
 346269, 261,2161,2407,  
 2464  
 346288, 976  
 346292, 928  
 360339, 972,1820,1897,  
 1898  
 346354, 2118  
 346366, 2107  
 346385, 277, 970,1597,  
 1608  
 346426, 284,1438,1610  
 346430, 1018  
 346511, 262,2543  
 346550, 2575  
 346561, 893,2342  
 346678, 274, 962,2184,  
 2187  
 346694, 265,2237,2285,  
 2318  
 346738, 2403  
 346751, 265,2254,2318,  
 2348  
 346793, 213, 274,1399,  
 2187  
 346799, 2333  
 346806, 274,1382,1397  
 346816, 987  
 346824, 1018  
 346827, 981,1839,2564  
 346883, 1002  
 346912, 215, 256,1343,  
 2384,2438  
 347117, 277,1597,1660,  
 2279  
 347120, 1087  
 347144, 1070  
 347219, 2594  
 347241, 1069  
 347257, 1095  
 347263, 971,2279  
 347288, 1085  
 347323, 976  
 347396, 2188  
 347422, 938,2545  
 347423, 269,1671  
 347445, 938  
 347451, 978,1730  
 347597, 1340,1945,1989  
 347647, 2519,2594  
 347648, 1587,2588,2594  
 347651, 257,1600,1651  
 347652, 2498  
 347682, 265,2243  
 347695, 1035  
 347777, 938,1877,2595  
 347888, 2620  
 347926, 299,1684,1744  
 347972, 938,1877  
 348040, 1236  
 348077, 2399,2547  
 348094, 2180  
 348099, 1587,2519  
 348129, 980  
 348156, 291,1905,1970  
 348161, 2119  
 348168, 2098  
 348266, 2407  
 348269, 253, 284,2263  
 348282, 1009  
 348292, 941  
 348346, 1823  
 348407, 2121  
 348589, 264, 934,1347,  
 2335,2336  
 348593, 1079  
 348625, 262,2102  
 348644, 2120  
 348661, 925,2281  
 348694, 1098  
 348715, 940,2316  
 348723, 2529,2586  
 348743, 2181  
 348910, 2182  
 348931, 978  
 348944, 977  
 348959, 978  
 348960, 978  
 349016, 1026  
 349022, 977  
 349097, 1816  
 349100, 1989  
 349121, 935,2335  
 349220, 931,2104  
 349232, 2118  
 349283, 1078,2590  
 349322, 1010,1766,2195  
 349562, 1995,2017  
 349652, 1095  
 349658, 2186  
 349683, 262,2238,2348  
 349724, 970

349872, 1823	352460, 2497	354861, 960,2041
349947, 995	352547, 930,2394,2519,	354957, 926,2023
349959, 987	2570	355015, 2182
349962, 1018,2218	352585, 941	355144, 978
349980, 303, 937,2168,	352610, 946,2186,2645	355172, 948,1676,1736
2200	352611, 946,2186,2645	355256, 894,1719
349990, 933, 2385	352761, 2110	355298, 302,1838,2092
349999, 932,2373,2376	352808, 964,2312,2325	355318, 923
350018, 1235,2210	352909, 2134	355330, 302,1838
350056, 303,2231	352922, 931	355331, 2157
350137, 1684	352949, 2532	355382, 1018
350310, 988	352962, 2123	355419, 926
350391, 2176	352988, 1897	355466, 937,2187
350409, 258,2137	352999, 306,1558	355563, 293,1231,1456
350417, 806	353041, 303,2369	355604, 998,1945,2589
350577, 265,2254	353071, 1023	355652, 932,2122
350642, 2202	353075, 2625	355654, 295,1572,2442
350699, 2490	353136, 941,2505	355657, 1088
350764, 2054	353193, 1716	355690, 929
350847, 2396	353208, 1075	355712, 2589
350874, 926	353285, 2142	355720, 2108
350894, 268,2103,2645	353318, 946,1018	355726, 2218
350906, 991	353349, 2604	355732, 304,2519
350924, 268,2408,2476	353381, 1049	355794, 934,2142
350928, 285,2247	353389, 2400	355860, 936,2311,2378
350976, 1719,2492	353429, 1000	356012, 988
351056, 254, 292,2322,	353455, 873	356073, 979
2324	353589, 1035,1901,2483	356141, 2401
351074, 2125	355952, 982	356146, 999
351084, 303,2143,2207,	353597, 269,2101,2115	356170, 932,2105
2216,2645	353688, 977	356182, 1012,2110
351091, 2114	353849, 1076	356233, 263,2336
351118, 988	353850, 2142	356256, 1941
351257, 2595	353878, 306,2294	356260, 1947
351390, 1012,1969	353930, 1685	356277, 997,2437
351417, 934	353932, 1010,2250	356299, 946,2186
351438, 1065	353947, 1098	356308, 1560
351457, 265,2305,2318	353956, 2630	356327, 981,2365
351527, 973	353978, 299,1058,1685,	356343, 934,2079
351577, 267,2305	1695,2133	356427, 2076
351626, 974	354159, 977	356446, 291,2413
351718, 931,2079,2091	354166, 2393	356473, 2119
351945, 980,1966	354198, 956	356609, 1066
351999, 264,1347,2336	354199, 956	356665, 1065
352000, 264,2336	354200, 935,2203	356681, 934,2336,2353
352042, 1580,1987,2575	354221, 1063	356716, 1088
352054, 988	354233, 935,2374,2377	356740, 1013,2176
352058, 933	354274, 1035	356741, 928
352099, 305,2283	354284, 2541	356749, 2187
352112, 2336	354326, 1018,2207	356752, 1083
352113, 935,2335	354339, 1077	356776, 2628
352176, 849	354357, 1855	356787, 957
352201, 598	354696, 2478,2479	356878, 998
352412, 946,2186	354748, 294,2403	356956, 1018
352414, 2376	354784, 2479	356975, 2119
352445, 301,1876,2134	354847, 168	356981, 2535
352451, 1094	354860, 960,2041	356068, 2542

## Great Britain

357079, 1000,2505	358898, 923	362480, 1038,2395
357080, 2627	358942, 2130	362489, 1036
357084, 935,2336	358979, 1035	362523, 2338,2661
357100, 2645	359018, 1091	362841, 1038
357112, 2178	359072, 1005,2349	362846, 2263
357120, 1645,2161,2168, 2638	359147, 2637	362921, 2263
357121, 1401,1765	359164, 2630	362939, 2134
357123, 306,1362,1588, 2413	359249, 1410,1635,1732, 1736,1741	363284, 1011,2133
357140, 2637	359278, 2529	363426, 2189
357141, 2359	359324, 940	363448, 2141
357154, 1401,1765	359385, 2190,2195	363700, 1026
357167, 2629	359387, 1882,2041	363883, 1238
357169, 302,2337,2338, 2638,2661	359390, 2506	363897, 1744
357184, 992	359430, 1035	363929, 1070
357190, 1590,1645,2161, 2638	359477, 2121	363933, 2587,2590,2595
357192, 1401	359618, 1386	363940, 2587,2590
357227, 1873	359627, 2119,2130	364020, 2189,2376
357360, 2383	359641, 1154	364057, 2338
357457, 940,2560	359802, 1015,2140	364142, 1546
357526, 1402,1765	359860, 2120	364277, 999,2585
357552, 1008	359861, 2312	364463, 1457
357565, 2372	359867, 2144	364654, 2092
357567, 930,2589	359878, 998	364749, 1037
357576, 2337	359861, 964	364765, 2397
357577, 2337	359910, 2102,2220	364794, 1058
357606, 2123	359971, 2079,2217,2353	364807, 1924
357619, 2383	359975, 2079,2217	364837, 1092
357667, 930	359976, 2079,2217	364844, 1235
357670, 2056	360010, 2092	364852, 2533
357781, 929	360058, 1021	365040, 2338
357817, 1035,2503	360292, 2596	365041, 2338
357971, 2121	360299, 1022	365094, 2589
358033, 2296	360311, 1029	365110, 2641
358045, 2123	360330, 1026	365132, 1041,2380
358120, 923	360417, 1021	365143, 2161,2561
358149, 2596	360449, 2243	365170, 2209
358393, 305,1871,2579	360626, 946,2105,2182	365178, 2190
358420, 2641	360688, 1023,2087	365250, 1659
358428, 940,1951,2395	360742, 1388,1398	365323, 1236
358436, 1063	360815, 1579,2437	365338, 1035
358500, 305,2092	360876, 2183	365365, 2101
358501, 996,2134	360896, 2041,2407	365371, 2588
358510, 1656	360982, 2216	365484, 2371
358512, 1016,2133	361200, 1024,2196	365542, 2491
358574, 2185	361254, 2589	365566, 2210,2218
358585, 2338	361317, 1015	365621, 2210,2136,2218
358593, 937,2170,2218, 2353	361362, 2269	365710, 1025
358603, 2637	361381, 2269	365828, 2585
358761, 2629	361418, 1037,2162	365982, 1718
358803, 2622	361691, 2138	366070, 2378,2570
358831, 1026	361696, 2123	366077, 2553
358881, 1057	361842, 2108	366110, 1365,2093,2121
	361918, 984	366116, 1658,1670,2579
	362401, 1059	366380, 1037,2502
	362437, 1401,1765	366543, 1086
	362462, 849	366546, 2373
		366586, 1080

366587, 1080  
 367028, 2635  
 367097, 2644  
 367126, 1089  
 367274, 2578  
 367288, 2552, 2636  
 367312, 1058  
 367390, 1865  
 367515, 1089  
 367523, 1077  
 367633, 1078  
 367658, 1078  
 367878, 1718  
 367830, 2207  
 367863, 1046  
 367932, 1080  
 367965, 1072  
 368022, 1073  
 368083, 1086, 1092  
 368110, 2644  
 368341, 2093  
 368457, 2042  
 369017, 1087  
 369028, 1077  
 369215, 1059  
 369309, 2479  
 369572, 1082  
 369608, 2525, 2530, 2633  
 369609, 2633  
 369610, 2632  
 369896, 1073  
 369977, 1076  
 360355, 1744  
 360402, 1084  
 370407, 2139  
 370430, 2172, 2220  
 370438, 1049  
 370440, 2637  
 370506, 1081  
 370512, 2181  
 370699, 1081  
 370716, 1088  
 370771, 1045  
 370810, 2140  
 371003, 2139  
 371048, 2140  
 371153, 2641  
 371222, 2552  
 371239, 2178  
 371343, 2079  
 371360, 1074  
 371428, 2378  
 371461, 2172  
 371554, 1045  
 371555, 1046  
 371604, 2484  
 371786, 2142  
 371901, 1081  
 371910, 1068  
 371946, 1048  
 372095, 1408  
 372122, 2624  
 372129, 2163  
 372241, 1058  
 372323, 1097  
 372327, 1066  
 372395, 2125  
 372434, 1047  
 372451, 1334  
 372503, 1073  
 372507, 1046  
 372579, 2595  
 372599, 2138  
 372647, 2578  
 372835, 2630  
 372844, 1058  
 373037, 2630  
 373406, 2372, 2644  
 373628, 2633  
 373643, 1093  
 373653, 1083  
 373704, 2629  
 373893, 1046  
 373947, 1994  
 374029, 1069  
 374049, 2631  
 374134, 1066  
 374356, 2631  
 374519, 1097  
 374884, 2633  
 374950, 1086  
 374964, 2627  
 375067, 2629  
 375313, 2644  
 375321, 1086  
 375356, 2311  
 375388, 1082  
 375393, 1085  
 375399, 2623  
 375423, 2631, 2644  
 375424, 2631, 2644  
 375425, 2632  
 375451, 2636  
 375735, 1076  
 375952, 1078  
 376045, 1046  
 376097, 1084  
 376295, 1070  
 376331, 1083  
 376332, 2637  
 376540, 2635  
 376612, 1092  
 376797, 2633  
 376833, 1075

376989, 1084  
 377233, 1073  
 377313, 1059  
 377348, 2635  
 377442, 1047  
 377486, 1075  
 377688, 2635  
 377712, 2631  
 377795, 1059  
 377809, 1098  
 378044, 1059  
 378074, 1068  
 378228, 1075  
 378319, 1075  
 378463, 1046  
 378473, 1082  
 378536, 1078  
 358858, 1074  
 378910, 1094  
 378917, 2638  
 379006, 1079  
 379042, 1047  
 380061, 2641  
 380819, 1074  
 380822, 1058  
 380950, 1092  
 380964, 2636

# HOLLAND

## Application

15132, 535

## Patents

103, 402, 1989  
 1380, 1719  
 1476, 411, 835  
 1848, 1135  
 3146, 476  
 8351, 1797  
 9656, 92, 1797  
 14500, 2489  
 15246, 581  
 15344, 69, 516, 2085  
 16073, 695  
 16297, 624  
 16355, 680  
 16356, 680  
 17163, 1232  
 17632, 88, 1641, 1763,  
 1768  
 17997, 686  
 18030, 2174  
 19083, 90, 1641, 1768  
 19099, 91, 1644  
 19509, 815

**Holland**

19937, 1155  
 20522, 1038  
 20656, 92  
 20680, 792, 896,2084  
 20725, 781, 896,2084  
 21150, 1171  
 21183, 215,2598  
 21752, 896,2084  
 21860, 790  
 21864, 907  
 21921, 1230  
 22099, 1232  
 22542, 640  
 22568, 696  
 22730, 254,2135  
 23541, 1073  
 23586, 997  
 23648, 1561,2179  
 23779, 721  
 24111, 839  
 24570, 2187  
 24805, 1037,1073  
 24895, 1718  
 26266, 1073  
 26910, 1070  
 29743, 91

**HUNGARY****Applications**

A 1829, 410  
 A 2071, 410  
 D 2145, 397  
 H 5930, 444  
 K 3414, 351  
 L 2409, 411  
 L 3294, 21, 416  
     1338,1418,1864  
 L 3451, 11, 415,  
     1180  
 L 3470, 416  
 L 3731, 422  
 M 3691-09, 394,1889  
 N 952, 362  
 O 674, 403  
 R 2398, 377  
 S 6073, 384  
 S 6079, 1247  
 S 6854, 414  
 W 2966-11, 396  
 W 3204-11, 399  
     3096, 386  
     3306, 386  
 Feb. 27, 1902, 339

**Patents**

May 20, 1902, 338  
 June 23, 1904, 343  
 Feb. 6, 1907, 349  
     35866, 349  
     51653, 1287,1687,1940,  
       1953  
     55647, 389  
     58767, 413  
     59446, 1157,1940,1953,  
       2610  
 132522, 2174

**INDIA****Application****1911**

349, 386

**Patents**

1601, 428  
 5687, 499  
 5688, 501,2307  
 5689, 501,2307  
 5690, 501,2307  
 6151, 1414  
 6956, 522  
 6957, 522  
 6958, 522  
 6959, 522  
 7074, 522  
 7998, 522  
 8900, 1171  
 8901, 1171  
 9129, 581  
 9234, 522  
 9285, 1171  
 9932, 584,1171  
 10235, 560  
 10457, 1171  
 10458, 1171  
 11022, 596,2558  
 11141, 83,1421  
 11142, 91,1643,1644  
 11143, 1764  
 11301, 620  
 11753, 686  
 11934, 613  
 11935, 613  
 11936, 613  
 11937, 613  
 11941, 613  
 11942, 613  
 12573, 2109  
 12612, 634

12788, 130  
 12998, 147,1897  
 13072, 610  
 13089, 147,1897  
 13467, 109,2041  
 13468, 635  
 13856, 147,1897

**ITALY**

Apr. 17, 1905, 345,1263  
 Dec. 21, 1929, 292  
 97, vol. 215, 1925 349  
 268/234, Nov. 4, 1907,  
     360  
 210/536, 46  
 17844, 2174  
 31391, 2501  
 62042, 336, 337,1380,  
     1822  
 85229, 361  
 85347, 438  
 85490, 411  
 87558, 2600  
 89594, 361  
 91466, 2600  
 96613, 411  
 101262, 361  
 104615, 361  
 104615, 2600  
 112260, 389  
 112272, 2600  
 115139, 389  
 115772, 386  
 115776, 394,1889  
 120751, 389, 410  
 121072, 399  
 122428, 396  
 122600, 396  
 122890, 384, 416,2059  
 123252, 396, 412  
 124854, 396  
 125696, 413  
 126270, 404, 416  
 126542, 397, 408  
 126805, 1287  
 127915, 410  
 128651, 411  
 128759, 417  
 128760, 417  
 130002, 396, 411  
 131098, 420  
 132188, 424  
 132825, 11, 415,1180,  
     1687,1940,1953  
 133188, 416,1157,1940,  
     1953,2610

134767, 384	199099, 83,1421	243842, 558
136231, 389	199100, 83,1421	244959, 670,1971
136232, 389, 410	199196, 205,1414,1425,	251367, 673,2248
138699, 420	1538	252600, 635
139232, 590	199587, 457	253044, 502,2222
140506, 11, 44, 416,	200474, 585	253674, 630
1180,1418,1482	209183, 58,2661	253704, 634
140664, 478,1864	210072, 624	254138, 1406
141905, 478,1864	210113, 512,2236	254252, 670,1971
144105, 420, 478,1864	210114, 512,2236	254253, 670,1971
144187, 496	210526, 1807	254320, 637,2242
146751, 448	210536, 1576	254337, 631
147233, 454	211190, 578,2307	254352, 120
148762, 397	212137, 509	254515, 620
148776, 1233	212138, 566,1798	254524, 130
151294, 397	212139, 566,1796	254530, 666
158373, 451	212623, 1033	254540, 628
158637, 454	212881, 516	255097, 723
159477, 451	217761, 2111	255774, 721
159478, 454	220640, 620, 622, 633,	255838, 637
159935, 1030	2040	255928, 633,1169,1410
160188, 451	222794, 2661	255929, 634
160300, 451	222812, 637	256209, 821
160301, 451	223260, 2376	256210, 598
160302, 454	227065, 2112	256235, 720
162996, 1033	228813, 142,2661	256281, 597
163599, 1033	228814, 138,2268,2661	256283, 598
164852, 454	228903, 1032	256606, 631
164867, 453	229815, 590	256719, 666,1912
165922, 1233	232704, 634,1397	256738, 634
167117, 441	233180, 521,2040	256788, 822
167228, 1024,2196	233801, 522, 637,1984	258319, 637
168298, 586	233902, 637	258384, 634
168401, 541	235232, 69,2085	258713, 715
171138, 473, 1797	236819, 97	258934, 597
171810, 1034	237298, 626	258937, 2083
171811, 1034	238137, 637	258992, 634
171812, 1034	238535, 1038	259388, 141,2518
172228, 459,1760	238536, 1037	259734, 631
172678, 465	238537, 1037	260174, 762
173152, 455	239502, 719	260529, 724
173413, 21,1338,1418,	240097, 1234	260690, 667
1864	240422, 2661	260707, 149,1438
177682, 443,2396	240432, 688	260746, 149,1438
179376, 590	240671, 680	260874, 666
180766, 484	240761, 2661	261118, 634
181812, 498	241135, 634	262012, 1040
182982, 554	241182, 2661	262738, 1036
183582, 21,1338,1418,	242239, 680	262755, 849
1864	242291, 634	262866, 194
190207, 522	242516, 1240	263103, 1030
190222, 2661	242584, 2661	263350, 1032
194918, 205,1414,1425,	242635, 634, 636,1169,	263381, 1032
1538	1410	263590, 1030
194922, 1224	242879, 1037	263777, 1032
196070, 498	242937, 686	264194, 147,1897
199098, 83,1421	243811, 1414	265012, 688

**Italy**

265292, 2172  
 265296, 1032  
 265691, 1031  
 266346, 1034  
 266370, 1035  
 266431, 1031  
 266443, 1034  
 267547, 1036  
 268372, 1038  
 268699, 2079  
 268755, 1031  
 268794, 839  
 269226, 1034  
 269227, 1034  
 269344, 1246  
 269387, 762  
 269803, 2244  
 270336, 902  
 270389, 784  
 270550, 254,2547  
 270612, 695  
 270613, 864  
 270704, 863  
 271076, 254,2528  
 271214, 254,2322  
 271387, 254,2322  
 271470, 864  
 271566, 883  
 271648, 254,2547  
 271718, 147,1897  
 271751, 864  
 271862, 866  
 271899, 254,2547  
 271945, 724  
 272478, 147,1897  
 272590, 799  
 273313, 693  
 273653, 774  
 273863, 254,2322  
 273936, 784  
 273955, 866  
 274021, 255,1761  
 274657, 254,2528  
 274753, 254,2528  
 274795, 773  
 275387, 755  
 275773, 225,2090,2661  
 276390, 865  
 276630, 843  
 276675, 865,1739  
 276787, 838  
 277486, 254,2322  
 277656, 864  
 277906, 864  
 278040, 864  
 278041, 864  
 278314, 784

278348, 866,1741  
 278539, 864  
 280069, 637

**JAPAN**

28327, 41  
 29247, 41  
 30572, 2611,2616  
 32242,1803  
 34855, 1913  
 36545, 537  
 37857, 41  
 44216, 663,1493,2490  
 91019, 998  
 91885, 2448  
 93058, 1538

**LUXEMBOURG**

3302, 328,1842  
 3361, 328,1842  
 7610, 328,1842

**MEXICO**

32718, 277

**NEW ZEALAND**

57726, 115,1820  
 58031, 115,2524  
 58177, 715  
 62198, 1039  
 63303, 886,2506  
 63304, 918  
 63305, 918  
 65256, 891  
 65392, 1033

**NORWAY**

7361, 2499  
 7610, 328,1842  
 15082, 345  
 16291, 411  
 23365, 41  
 24818, 1157,1940,1953,  
 2610  
 25625, 496  
 26527, 441  
 26693, 454  
 26694, 454  
 26837, 1272  
 27040, 1252  
 27166, 447

27507, 11, 44, 415,  
 1180,1418,1483,  
 1687,1940,1953

28501, 487  
 31018, 449,1699  
 31349, 454,1823  
 31377, 476  
 31703, 454  
 32676, 576  
 32779, 482  
 32780, 515  
 33459, 446, 515  
 35448, 478  
 35854, 576  
 35856, 476  
 36611, 1224  
 36952, 83,1421  
 37354, 87,2071  
 37627, 1797  
 37755, 46,1576,1807  
 38532, 588  
 38893, 2489  
 40249, 2488  
 40452, 2499  
 41025, 2488  
 41204, 2488  
 42141, 1764  
 42722, 680  
 42811, 90,1641,1768  
 43407, 686  
 44419, 1643  
 45355, 667  
 45797, 626  
 45975, 625  
 46437, 839  
 46521, 839  
 47806, 839  
 47842, 254,2547  
 48842, 843

**PORTUGAL**

2899, 328,1842  
 2930, 328,1697,1700,  
 1842  
 7102, 377  
 8348, 12, 397

**RUSSIA****Applications**

58096, 422  
 58459, 414  
 59594, 423  
 Aug. 14, 1898, 328  
 Oct. 14, 1898, 328

Patents

3264, 328,1697,1700,  
1842  
3378, 328,1842  
3713, 1165  
4563, 585,2485  
7848, 1895  
8893, 1896  
11492, 345  
15593, 1179  
17216, 826  
23611, 2566  
25690, 1078  
26029, 1079  
26112, 413  
36464, 1179  
58598, 826

SPAIN

7849, 2174  
44590, 370  
47917, 1909  
48887, 389  
49118, 392  
49719, 389  
55104, 11, 415,1180,  
1687,1940  
55263, 1157,1940,1953  
58940, 496  
122122, 1037

SWEDEN

10976, 328  
20249, 345  
24249, 371  
33546, 371  
38392, 1287  
38905, 11,1180,1687,  
1940,1953  
40613, 1719  
43001, 496  
44929, 482  
49078, 1414  
54449, 46,1576,1807  
59074, 2488  
59605, 2488  
61131, 90,1641,1768  
62474, 723  
64340, 91,1644  
69983, 891  
72045, 945  
72243, 975  
72244, 289,1607  
72292, 978  
72604, 1020

SWITZERLAND

33571, 2128  
39587, 2128  
39840, 363  
42181, 2128  
43330, 370  
43470, 2472  
44833, 368, 475  
46329, 41, 361  
47559, 1803,1830  
48975, 374,2018  
51094, 368  
51574, 2580  
51644, 391,1687  
51839, 394,1889  
51910, 391,1687  
51952, 385,1803,1830,  
1841,1843,1866,  
2049  
51960, 391  
51970, 391  
52115, 385,1803,1804,  
1805,1830,1843,  
2025  
52273, 383,1866  
52437, 385  
52438, 383,1819,1866  
52903, 374,2018  
53585, 386  
53760, 1830  
53777, 387, 388  
53888, 374,2018  
54146, 389  
54497, 392  
55344, 402  
55942, 388  
56107, 389  
56146, 387  
56152, 382  
58410, 1839  
58669, 591  
59164, 587,1982,1989,  
2021,2049  
59412, 400, 467  
60510, 413  
61035, 680  
61390, 411  
61424, 410, 490  
61611, 1989  
61929, 408,1831,1858,  
1959  
62354, 2474  
62359, 420, 427, 480  
63057, 956  
63136, 1868,1869  
63137, 1868,1869

63526, 956  
63580, 1703,1719  
63584, 398,1816  
63585, 398, 408,1831,  
1832,1860,1866,  
1872  
63586, 409  
63587, 2174  
63821, 1703,1719  
63854, 1819  
64683, 2105,2174  
64710, 587,1800,1803,  
1982,1984,1986,  
2021  
64932, 1869  
65051, 398,1832,1860,  
1866,1872  
65057, 398,1832,1860,  
1862,1866,1872  
65459, 452  
65138, 1956  
65139, 1956  
65549, 1871  
65741, 425  
65920, 382  
65925, 1956  
66046, 420, 427, 480  
66047, 420, 427, 480  
66488, 423  
66509, 1813,1819,1944  
66510, 445,1803,1943  
66512, 11, 415,1180,  
1687,1940,1953  
67113, 397, 634  
67258, 425,2536  
67708, 1943  
68001, 397, 634  
68002, 411  
68921, 411  
68966, 427  
68996, 428, 467  
69960, 427  
70135, 734  
70744, 1229  
71681, 1229  
71695, 428, 467, 483  
71990, 496  
71991, 428, 483  
72378, 444  
74231, 467,1621  
77663, 428, 466, 483,  
1294  
78108, 467  
78274, 397  
81135, 440  
85075, 449,1699  
85868, 444



## Switzerland

85870, 561	120810, 598, 686	134370, 1971
87761, 585	120985, 619	134401, 2111
88131, 490	120986, 619,2252	134626, 783,1061
88193, 459,1760	120987, 619,2252	134943, 718,2274
90096, 569, 578,2307	120988, 619,2252	134955, 843
90874, 585	120989, 619,2252	135221, 646
91157, 48,2579	120990, 619,2252	136257, 718,2274
91574, 43	120991, 619,2252	138026, 755
92375, 510,2223	120992, 619,2252	138609, 721,1561
92403, 588	120995, 619,2252	139512, 255,1758
92980, 526	121030, 1644	139513, 896,2084
93272, 448	121031, 1644	139514, 839
93273, 448	121032, 1645	139515, 877
93296, 455, 506	121353, 734	139819, 980
93814, 450, 523	121531, 717,2233	140049, 843,2216
94022, 450, 523	121820, 91,1644	140429, 244,2523
94410, 2130	122076, 1645	140726, 843
94602, 526	122361, 712	140727, 833
95042, 1032	122569, 717,2283	140728, 244,2512
95376, 427,1965	123891, 129, 160,2230	141037, 843
95377, 427, 536	124767, 69, 719,1446	141270, 2180
96140, 555	124917, 91,1644	141556, 250, 299,1612,
97589, 1165	124918, 91,1644	1647,1664,1746
97634, 205,1414,1425,	124919, 91,1644	141558, 250, 255,1639,
1538	125216, 721	1765
97643, 96,1338,1340,	126200, 157,2260	142173, 1736
1571,1576,2443	126204, 719	142175, 210, 250,1612,
99047, 590	126410, 730	1664,1665,1743,
100109, 569,2307	126588, 696	1744
100708, 580	126658, 703	142406, 255,2084,2086
103432, 1983	126780, 189	142749, 255,1761
104339, 2030	126819, 668	142751, 254,2547,2577
104789, 1269	126820, 632	142752, 819
105945, 522, 634	127223, 158,2245	142757, 254,2367
106566, 2498	127231, 1905	143038, 291
106567, 2498	127241, 158,1567,1911	143296, 980
107227, 2498	127260, 2251	143297, 980
107879, 2498	127261, 168	143347, 773
108043, 97	127521, 625	143406, 276,2571
108090, 2488	127542, 2661	143411, 820
108505, 2488	127543, 720,2582,2661	143654, 1012
112214, 721	127621, 2262	143667, 839
113348, 1268	127714, 158,2260	143668, 980,1797
113353, 97, 719,1446	127755, 109,2041	144227, 1664
113741, 244, 596,1851,	127790, 634	144228, 1664,1743
2558	129593, 628	145053, 299,1647,1746
113925, 297,1579,2607	129842, 699	145054, 1665
114677, 583,2136	130137, 1905	145408, 2109
115116, 1990	131023, 2529	145463, 291,2456
115322, 48,2579	131100, 718,2274	145940, 792
115676, 670	131327, 129, 160,2230	145979, 997
115706, 593	131560, 299,2217	146541, 1009,1744
117569, 720	132923, 646	147115, 2121
118235, 90,1768	133158, 199,1797,2424	148117, 2251
119678, 126,2661	133200, 665,1851	148481, 1064
119678, 2526	133809, 843	149995, 2641
119680, 1243	134111, 839	151317, 1067

UNITED STATES

Trade Marks

148859, 491  
148912, 491  
316292, 940

Reissues

10879, 1920  
11917, 2603  
11997, 341,1734  
12637, 349, 586  
13067, 2601  
13531, 2600  
13793, 1909  
14087, 1881,2054  
14105, 1252  
14338, 396, 450, 451,  
778,1691,1692,  
1813,1879  
14530, 1881  
14531, 1881  
14686, 1165  
15199, 1803  
15434, 563  
16042, 525  
16591, 1931  
17157, 1867  
17267, 663,1493  
17377, 812  
18192, 849,2435

Applications

185198, 10,1337,1513,  
370898, 526  
554809, 526  
695854, 1422

Patents

35687, 1801,1832  
59888, 1830  
77304, 2537  
88228, 2537  
91377, 2048  
91393, 1830,1832  
93924, 2608  
97454, 1798,1830,1832,  
2048  
98272, 2607  
102798, 1856  
105338, 2048,2537  
112370, 1832,1856  
114470, 2472  
136953, 2048  
150722, 1832

156353, 1908  
156354, 1908  
172995, 1805  
190865, 1859  
199908, 549  
203834, 2472  
209570, 1832,2048  
218122, 2608  
219484, 2472  
233558, 1830  
233851, 1858  
234675, 1858,1859  
238928, 2608  
239423, 1830  
239424, 1830,2002  
239425, 1830  
241004, 2608  
246891, 2048  
251410, 1832  
251924, 2606  
256198, 2472  
256476, 2606  
257607, 1797  
262077, 1801,1803,1832,  
2044  
264986, 2003  
264987, 2003  
264988, 2003  
265337, 1798,1814,1832,  
2048  
267343, 2048  
269340, 1808,1830,1861,  
1869,1908,1919,  
1936,1937,1960,  
1962,2044  
269341, 1808,1832,1861,  
2044  
269342, 1832,2003,2004,  
2048  
269343, 1837,1878,1913,  
2044  
269344, 1808,1830,1837,  
1861,1873,1908  
269345, 1808,1832,1861,  
1873,1908,2044  
286212, 1832  
289917, 2608  
294577, 1830  
294661, 2059  
304229, 1832,2048  
311203, 1830,2048  
315357, 1830  
329273, 1830  
329313, 1832,2044  
332890, 2498  
340026, 1837,1919  
352726, 1919  
266231, 365,1830,1937,  
2053,2054  
371021, 1820,1837,1920  
372100, 1820,1837,1920  
375952, 2048  
380654, 2474  
381354, 1830,1832,1878,  
1916  
382418, 2602  
384005, 1919  
394559, 2173  
397856, 2601  
399264, 2601  
399265, 2601  
400190, 565  
401269, 1805  
410204, 1830,1834,2048  
410205, 1830,1832,1888,  
1890  
410206, 1830,1867,1890  
410207, 1830,1832,1861  
410208, 550,1830,1844,  
1923  
410209, 1830,1832,1884  
412398, 2607  
414761, 2602  
417202, 1837,1919,2048  
417284, 1856  
422195, 1830,1837,1919  
422430, 2474  
428654, 1837,1913,1919,  
2048  
434330, 1830,1913,1916,  
1919  
437499, 1830  
440921, 1830  
445528, 1919  
450264, 1837  
458663, 1830  
460086, 2606  
461272, 1856  
463039, 1830,1832,1878,  
1919,2048  
470451, 1832,1877,1878,  
1882  
471422, 1830,1832,1834,  
1837,1878,1919,  
2048  
471469, 1830  
478543, 1830,1837,1874,  
1913,1962,2048  
478955, 1937  
479305, 1830  
487167, 2046  
487205, 2046  
489684, 1830  
491880, 1916,1919

## United States

- 494255, 2616  
 494790, 1830,1832,1837,  
 1869  
 494791, 1830,1932,1837,  
 1869  
 494792, 1830,1832,1837,  
 1869  
 494793, 1830,1832,1837,  
 1869  
 495263, 1803,1830,1832,  
 1837  
 498028, 1894  
 502546, 1830,1832,1837,  
 1919,2044  
 502547, 1832,1837,2045  
 502921, 2044  
 503401, 1832, 2045  
 503402, 1832, 2045  
 503586, 2128  
 504905, 1832,1837,2045  
 507279, 2028  
 507749, 1337,1874,1878,  
 2045  
 507964, 1830,1919,1930  
 510617, 94,1878,2020  
 513791, 2608  
 514838, 2026, 2028  
 517987, 94,1808,1830,  
 1832,1861,1878,  
 2003,2004,2020,  
 2023,2048  
 518386, 1837,1865,1874  
 518387, 1837,1865,1874  
 518388, 1803,1832,1837,  
 1918  
 528273, 2602  
 528812, 94,1830,1890,  
 2021  
 530826, 322  
 532468, 329  
 534968, 586  
 542197, 2003  
 542692, 1830,1832,1861,  
 1878,2004,2047,  
 2048  
 543108, 1830,1878,2004  
 543197, 1807,1808,1861,  
 1919,1962,2047,  
 2048  
 543692, 2003  
 544697, 1926  
 547120, 2002  
 548623, 2600  
 551456, 1830,1832,1878,  
 2023  
 552209, 1830,1832,1919,  
 2004,2048  
 552934, 1830,1878,1913,  
 1916,2047,2048  
 552935, 1830,1878,1913,  
 1919,2048  
 553270, 1830,1832,1878,  
 2004,2020,2048  
 555596, 1803,1837,2048  
 556017, 1830  
 559392, 1288,1830,2045  
 559823, 1832,1837,1874,  
 1878  
 559824, 1832,1834,1837,  
 1957  
 561624, 1830,1878,1910,  
 1919,2048  
 562626, 1830  
 564342, 2022  
 564343, 2048  
 566349, 1832,1878,1964,  
 2048  
 568104, 1956, 1957  
 568105, 1952,1956  
 568106, 1830,1932 1955,  
 2048  
 569704, 2173  
 570728, 1830  
 572134, 1832,1961,1964  
 572135, 1961,2024,2048  
 573132, 2003  
 575387, 2472  
 578714, 1805,1832,1878,  
 1919  
 583516, 1826  
 583517, 2002  
 584862, 563  
 587096, 1830,2053  
 587097, 1919,2053  
 587211, 1837,1856,1919  
 589870, 2028  
 592895, 1830  
 593787, 2028  
 595355, 1803,1830,1832,  
 1837,1877,1882,  
 2048  
 596662, 1878,2047,2048  
 597144, 1830,1919,2048  
 598648, 550,1841,1844,  
 1925,1961  
 598649, 1803,1830,1832,  
 1837,1878,1889,  
 1890  
 600556, 1870  
 601927, 1830  
 602797, 1830,1832,2048  
 604181, 1861  
 605931, 2028  
 607554, 1861,1888,2048  
 610615, 2028  
 610728, 1832,1906  
 610861, 1830,1832,1919  
 610953, 1830,2028  
 612066, 2048  
 612067, 2048  
 612531, 2028  
 612553, 2048  
 613400, 2028  
 614514, 2028  
 615319, 1861,2048,2157  
 617119, 2608  
 617450, 2028  
 621360, 1878,1913  
 621382, 2028  
 621433, 1830,2028  
 621434, 2028  
 622290, 2028  
 622291, 2028  
 622292, 2028  
 622293, 2028  
 622294, 1830, 2028  
 622727, 1837,1861,1919,  
 1933,1958  
 623701, 2002  
 623963, 1830,2028  
 625684, 2028  
 627031, 328,1842,2002  
 627932, 2608  
 627727, 1936  
 628463, 1274,1832  
 629273, 2602  
 630945, 1830  
 631295, 2048  
 632605, 328,1697,1700,  
 1702,1842,2002,  
 2003  
 634751, 628  
 645920, 2602  
 646044, 2173  
 649385, 2603  
 649852, 330  
 650431, 2603  
 650739, 2603  
 651364, 1856  
 654988, 332  
 657217, 2608  
 657956, 2602  
 662961, 2602  
 663011, 2600  
 663194, 2602  
 664223, 2602  
 666493, 2600  
 666711, 586  
 666819, 2603  
 666937, 2602  
 667600, 2603

- 672909, 2602  
 673396, 2601  
 673955, 463, 1842  
 675451, 2472  
 679203, 333  
 679204, 333  
 683862, 2602  
 683979, 2602  
 686321, 2602  
 689117, 2063  
 689118, 2603  
 689337, 2113  
 689408, 2603  
 689536, 2600  
 690211, 338, 1893  
 690915, 1919  
 692102, 2458  
 692337, 2603  
 692363, 2603  
 692497, 333  
 692775, 333  
 694946, 1803, 1919  
 695127, 341, 1734, 1859  
 695159, 2602  
 697790, 1830, 2048  
 698856, 1165  
 699713, 1165  
 700884, 41, 1338, 1906  
 700885, 1928  
 701591, 2030  
 704628, 2128  
 705772, 2602  
 708456, 341  
 708457, 341  
 708459, 2002  
 708828, 2603  
 709922, 329, 341  
 709984, 2601  
 710299, 2603  
 710819, 100, 2081  
 712200, 342, 1858, 1892  
 712406, 2128  
 713209, 2601  
 713863, 2601  
 713999, 1358  
 718484, 2128  
 724020, 2173  
 724616, 2173  
 725879, 2537  
 728607, 2603  
 728867, 2600  
 729990, 1896, 1928, 2048  
 733110, 1896  
 733729, 339, 349  
 734123, 336, 337, 1822, 2501  
 735579, 2603  
 736773, 2603  
 738533, 337, 1808, 2035, 2042, 2049  
 739713, 2603  
 741554, 1869  
 742454, 2602  
 742455, 2602  
 744413, 573  
 746909, 2616  
 749224, 1165  
 749297, 2607  
 750118, 2603  
 750119, 2603  
 752388, 340, 2501  
 753310, 2540  
 753659, 2240  
 756176, 343, 2046  
 758335, 2033, 2043  
 763564, 2601  
 771758, 2603  
 773978, 2603  
 774677, 338, 340, 1858, 1889, 2607  
 774713, 338, 346, 1859, 2048, 2607  
 774714, 346, 1859, 1861  
 776192, 343, 2046  
 776480, 343, 2046  
 777406, 1252  
 778173, 341, 1490  
 779553, 2046  
 781137, 2601  
 783828, 1878  
 785510, 2602  
 788129, 2608  
 790516, 2602  
 790565, 336, 337, 1822, 1842, 2002, 2501  
 792001, 341  
 792149, 342, 1859  
 794581, 1909  
 794851, 2058  
 797373, 1830, 1832, 1837, 1878, 1919  
 798061, 628  
 800331, 2602, 2603  
 804960, 343, 1817  
 805260, 341  
 805466, 1803  
 805544, 2601  
 805600, 2603  
 806866, 2128  
 808842, 2601  
 809935, 336, 337  
 812098, 345  
 815548, 1871  
 819058, 2601  
 819072, 2602  
 820926, 2601  
 822485, 2602, 2603  
 825143, 2030  
 825268, 2537  
 826229, 345, 1263  
 826351, 2173  
 830044, 1890  
 830493, 1832, 2032, 2058  
 831028, 2047, 2049  
 831488, 2030, 2049  
 832403, 2602  
 834460, 2128  
 834739, 1940, 2173  
 836417, 2603  
 837417, 2603  
 837061, 2601  
 837927, 2601  
 838350, 349, 466, 475  
 838850, 597  
 838968, 2601  
 840932, 2601, 2603  
 841509, 1803, 1837, 1919  
 842125, 2173  
 845374, 598  
 845616, 1913  
 846411, 2601  
 847338, 2601  
 847379, 342  
 850256, 2602, 2603  
 854374, 363, 565  
 854886, 2601  
 854887, 2601  
 855555, 2600  
 855556, 364, 390, 437, 1878, 1893, 2600  
 860320, 2601  
 861435, 1919  
 862407, 2602  
 863793, 2173  
 865716, 2602  
 866768, 1358  
 867836, 2603  
 870300, 2602  
 871554, 2600  
 874879, 1832  
 875919, 1563  
 875920, 1564  
 875921, 1564  
 875922, 1564  
 875923, 1564  
 875924, 1564, 2621  
 875925, 1564  
 875926, 1564  
 875927, 1564  
 875928, 1564  
 876035, 2603

## United States

- 878547, 2602  
 879603, 2173  
 881664, 2600, 2603  
 881827, 1878  
 883442, 2173  
 884475, 370, 1493, 1878  
 888516, 342, 1830, 1832, 1878, 1919  
 891218, 354, 1697, 1728  
 892301, 2602  
 892899, 2015  
 892900, 1256  
 893987, 1803, 1830, 1856, 1919  
 894108, 1832, 1878, 1919  
 895197, 2603  
 897254, 2601  
 900204, 587, 1859, 1981  
 900706, 2600  
 902092, 363  
 902093, 350, 1814  
 903199, 2602  
 904269, 342, 1856, 1940  
 904636, 2128  
 907598, 401, 461, 1856  
 909288, 1919  
 912812, 2173  
 919759, 364, 486, 2480  
 919832, 2128  
 920828, 365  
 922295, 376  
 922340, 361, 1891  
 922692, 41  
 924057, 41  
 925328, 41  
 927674, 1878  
 928235, 1832, 1856  
 931629, 376, 2434  
 932318, 41  
 939119, 2600  
 939120, 2600  
 941159, 376  
 942395, 1832, 1841, 1878  
 946294, 1926  
 951067, 2128  
 951483, 2602  
 951582, 384, 1796, 1832, 1941  
 952724, 369, 376, 1856, 2018, 2049  
 953454, 391, 2600  
 953677, 362  
 954310, 340  
 954984, 1832  
 955082, 362  
 960100, 2173  
 960437, 377  
 961241, 360, 2025, 2237  
 961360, 389, 1830, 1832, 1919, 1960  
 961980, 2602  
 962877, 364, 390, 436, 1893, 1941  
 965137, 41  
 966771, 2603  
 972464, 395, 1803, 1814, 1878, 1910  
 972953, 1843  
 974285, 1797, 1878  
 974900, 1878  
 976994, 2054  
 978394, 46, 2618  
 979431, 1832, 1878, 2047  
 979966, 360, 622, 1858, 2025, 2299  
 981178, 1803  
 981574, 351, 359, 360, 368, 1814, 2025  
 982370, 1830, 1919  
 984805, 2054  
 985405, 1883, 1887, 1890, 1953  
 985496, 2600  
 987092, 414  
 987692, 392  
 988965, 399, 1822, 1832, 1878  
 991205, 2128  
 992169, 2601  
 994273, 1176  
 994738, 390  
 994841, 1869  
 994842, 1869  
 995852, 1618  
 996191, 1832, 1857, 1874, 1886, 1894, 2049  
 996274, 2028  
 999183, 2603  
 999236, 363, 1698, 1700, 1814  
 999490, 401, 404, 1735, 1808, 1830, 1832, 1866, 1878, 1882, 2049  
 999955, 1979  
 1000040, 1979  
 1002408, 360, 2025, 2282  
 1003089, 2128  
 1003438, 393, 1884  
 1003741, 376, 1968  
 1005454, 394, 1832, 1873, 1878, 1889, 1924  
 1008333, 1868  
 1008489, 404  
 1008557, 404, 1381  
 1009116, 402, 1817, 1830  
 1010222, 389  
 1011181, 1856  
 1012887, 2049  
 1014859, 1959, 1964  
 1015155, 385, 1017, 1803, 1830, 1832, 1841, 1843, 1844, 1878, 2049  
 1015156, 384, 1803, 1804, 1830, 1832, 1841, 1843, 1878, 1924, 2025, 2049  
 1018132, 2472  
 1018631, 2603  
 1020593, 437, 492  
 1021569, 1803, 1830, 1878, 1882, 1913, 1919  
 1023295, 2173  
 1024965, 2600  
 1025217, 1878  
 1025731, 383, 1825  
 1027121, 41  
 1027122, 41  
 1027486, 406, 1830, 1832, 1844  
 1027614, 406, 1832, 1841, 1878, 2049  
 1027615, 406, 1830, 1832, 1842, 1878, 2049  
 1027616, 406, 1823, 1824, 1830, 1832, 1878, 1878, 1901, 2038, 2049  
 1027617, 406, 1830, 1832, 1842, 1878  
 1027618, 406, 1830, 1832, 1842, 1844, 1878  
 1027619, 406, 1878, 1960, 2027  
 1028337, 417  
 1028748, 356  
 1029341, 388, 442, 1891, 1893  
 1030177, 1886  
 1030311, 399, 412  
 1030364, 2603  
 1031616, 374, 2018, 2025  
 1035108, 407, 1803, 1830, 1878  
 1036282, 2173  
 1036416, 2600  
 1037158, 40, 41, 1898  
 1039782, 407, 1803, 1832, 1878, 1914  
 1040323, 1839

- 1040886, 2129  
 1041112, 406, 1818, 1830  
 1041113, 407, 1830, 1832, 2022, 2036  
 1041114, 407, 1830, 1832  
 1041115, 407, 1830, 2049  
 1041116, 407, 1832, 2049  
 1011117, 407, 1830, 2023  
 1041118, 407, 1832  
 1041587, 413  
 1043389, 2600  
 1044434, 1182, 1619  
 1045895, 402, 408, 1832, 1985, 1989, 2049  
 1045990, 407, 2027  
 1046137, 437, 2600  
 1046729, 386  
 1047971, 2602  
 1050065, 421, 559, 1878, 1931, 1937, 2022, 2027  
 1051165, 392  
 1055513, 387, 1901  
 1061771, 420, 569, 2307  
 1061977, 386  
 1062579, 436  
 1066474, 1884  
 1067785, 422, 559, 1832, 1878, 1937, 2022, 2027  
 1069445, 413  
 1074092, 420  
 1074633, 1263, 1282, 1287  
 1075284, 1884  
 1076215, 422, 1830, 1902, 2049  
 1076216, 422, 1832, 2049  
 1076417, 41  
 1078265, 2601  
 1079773, 401, 1801, 1825, 1832, 1858  
 1081949, 2128  
 1082106, 2582  
 1082167, 414  
 1082424, 1884  
 1082543, 1830  
 1082573, 1868  
 1084581, 1922  
 1084702, 1803, 1821  
 1085112, 2582  
 1086048, 1868  
 1086381, 1868  
 1087422, 1881  
 1089482, 431  
 1089910, 407, 1831, 1959  
 1089960, 1832, 1919  
 1090641, 1956  
 1090644, 1956  
 1091627, 1838, 2582  
 1091628, 1838, 2582  
 1091732, 1838, 2582  
 1093247, 389  
 1094314, 1868  
 1094830, 384, 430, 437  
 1095999, 430, 1819  
 1096608, 437  
 1096644, 2617  
 1098728, 1838, 2582  
 1098776, 1838, 2582  
 1098777, 2582  
 1099761, 1871  
 1101373, 1290  
 1102630, 436  
 1105619, 1703, 1819  
 1107222, 133, 433, 1817, 2097  
 1108329, 1838, 2582  
 1108330, 2582  
 1108331, 2582  
 1108332, 2582  
 1109512, 419, 446  
 1111842, 1252, 1272  
 1112890, 431  
 1113973, 2601  
 1114981, 41, 2028  
 1117931, 1837  
 1118498, 1803  
 1119142, 2601  
 1119592, 2582  
 1121605, 1232  
 1122554, 430, 1919  
 1123401, 1800  
 1123572, 1892  
 1124012, 1829, 1830, 1832  
 1125906, 1881  
 1127871, 414, 454, 1691, 1829, 1910, 1914  
 1128094, 1879, 1919  
 1128468, 469, 1690, 1691, 1692, 1832, 1879, 1901, 1902, 1915, 2049  
 1128624, 47, 477, 1414  
 1128780, 1892  
 1129542, 1881, 1892  
 1129770, 1803, 1804, 1829, 1830, 1836, 1914  
 1130499, 1800, 1803, 1804, 1814, 1830, 1864, 1872, 1881, 1883  
 1131578, 1803  
 1132384, 479, 1690, 1691, 1813, 1879, 1914, 2049  
 1133062, 1919  
 1133083, 1881  
 1133385, 469, 1690, 1692, 1879, 1901, 1915, 2026  
 1133432, 1800, 1803  
 1133433, 1803  
 1133548, 457  
 1133639, 1830  
 1134527, 1860, 1894, 2017  
 1134956, 1253  
 1135026, 1803, 1829, 1868, 1880, 1914, 1919  
 1136245, 469  
 1136248, 469, 1690, 1691, 1692, 1829, 1879, 1915, 2022, 2049  
 1136462, 438, 1464, 1692  
 1137374, 1880, 1881  
 1138479, 2539  
 1139112, 1829, 1880, 2049  
 1139315, 1165  
 1140174, 416, 468, 1690, 1832, 1856, 1879, 1881, 1898  
 1140449, 1803, 1814, 1864, 1880  
 1140502, 1892  
 1141224, 1879, 1880, 1881, 1914  
 1141510, 1135, 1177  
 1141879, 586  
 1141944, 2582  
 1142619, 478, 1690, 1879, 1880, 1919, 2536  
 1143110, 1800, 1803, 1804, 1814, 1830, 1870, 1881, 1883, 1914  
 1143111, 1800, 1803, 1804, 1814, 1830, 1881, 1883, 1914  
 1143130, 1803, 1804, 1830, 1881  
 1143319, 1165, 1892  
 1143330, 1182  
 1143387, 1803, 1804, 1830  
 1143464, 1829, 1836  
 1142487, 1152  
 1143860, 477  
 1143877, 435, 1690, 1803, 1879, 1880, 1881  
 1143878, 435, 1690, 1803, 1879, 1880, 1881  
 1143979, 469, 1690, 1691, 1692, 1829, 1879, 1902, 1903, 1914, 1915

## United States

1144076, 484	1691,1692,1829,	1168785, 1881
1145095, 1165	1879	1169316, 2052
1145365, 1803,1880	1156969, 416, 439,1690,	1169321, 1881
1145980, 1880	1801,1810,1880,	1169322, 1881
1146142, 1295	1881,2049,2105	1169592, 1182
1146214, 1881	1157316, 1892	1169756, 434
1146300, 1881	1157705, 1860	1169783, 1297,1493,1814,
1146336, 1919	1158217, 1832,1869,1883,	1864,1872,1927
1146384, 2600	1892	1170391, 2600
1146387, 436,2604	1158265, 1800,1919	1172772, 1814
1146388, 437	1158367, 1880	1172773, 1803,1844,1864,
1146391, 437,1692,1919,	1158659, 2020	1880,1883,1914
2604	1158660, 2020	1173336, 440,1701,1734,
1146413, 2601	1158960, 416, 439,1690,	1799
1146414, 1804,2601	1691,1801,1810,	1173337, 440,1690,1703,
1146787, 1803	1813,2559,2608	1735,1803,2049,
1146854, 1924	1158961, 416,1801,1810,	2559
1147066, 1882	1879,1880,1881,	1173628, 1803,1814,1830,
1147848, 1800,1803,1804,	1919,2608	1880,1881,1914
1881,1883	1158962, 1801	1173931, 445,1689,1690,
1147849, 1800,1803,1804,	1158963, 439,1690,1801,	1691,1692,1817,
1814,1830,1881,	2501	1829,1836
1883,1914,2035	1158964, 439,1801,1881	1173975, 607
1147850, 1803,1804,1814,	1159257, 1803	1174250, 1892
1829,1830,1836,	1159258, 1800,1803	1174466, 1860
1880,1881,1892,	1159376, 1892	1174663, 444
1919	1160041, 1879,1880	1174734, 2057
1147851, 1297,1803,1814,	1160063, 1879,1914,2049,	1175425, 2049,2050,2059
1880,1883	2051,2052	1175728, 403, 544,1842
1147852, 1803,1814,1880,	1160363, 1881	1175791, 475,1690,1691,
1914	1160364, 1881	1801,1803,1813,
1148104, 1177,1881	1160394, 1803,1814,1864,	1832,1879,1881
1148168, 1803	1880	1178223, 1892
1148258, 1821,1892,1919	1160595, 1941,1943	1179176, 1803
1148908, 2049	1160979, 457,1690,1691,	1179357, 461,1803,1880,
1149171, 1803	1800,1829,1836,	1881
1149532, 475	1879,1880,1885,	1179413, 1803
1150047, 1879	1919,2259	1179420, 1892
1150251, 1275	1161063, 1832,1959,2049	1180704, 449,1691,1692,
1150642, 1881	1161904, 1889	1813,2157
1151113, 1868	1164647, 1869,1887	1180902, 440
1151255, 1297,1814	1165179, 463,1690,1691,	1181361, 1830
1151928, 454	1692,1813,1829,	1181680, 1888
1151929, 454	1837,1842,1879,	1181697, 1838
1152098, 577	1881,1919	1181758, 459,1690,1691,
1152625, 459,1691,1800,	1166346, 1931	1836,1837,1879,
1803,1919,2056	1166790, 1800,1984,1986	1880,1919
1153574, 1879,1919	1167264, 1803	1181800, 1803
1153596, 387, 442,1687,	1167468, 437,2606	1181853, 1879
1690,1691,1829,	1167640, 1297,1803,1814,	1181857, 396, 451,1690,
1832,1837,1879,	1880,1914,1927	1691,1692,1813,
1891,1902,1911,	1167641, 1803,1814,1880	1879
2049	1167462, 1803,1880	1181857, 396
1154161, 1814	1167468, 1919	1181858, 397, 453,1681,
1156119, 1800	1167469, 1803	1690,1691,1692,
1156452, 1880	1168164, 445,1817,2035	1813,1823,1832,
1156894, 448,1689,1690,	1168626, 1881,2054	2259

- 1181859, 398, 452,1690, 1188655, 401, 461,1892 1195673, 460, 478,1690,  
1691,1692,1801, 1188775, 401, 461,1892 1691,1692,1735,  
1812,1813,1823, 1188776, 401, 461,1856 1800,1803,1804,  
1832,1860,1866, 1188777, 401, 462,1856 1813,1879,1880,  
1871,1872,2050, 1188797, 469,1690,1691, 1881,1919,1944,  
2051,2052 1803,1829,1830, 2050  
1181860, 398, 452,1690, 1879,1902,1903, 1195720, 1165  
1691,1692,1698, 2037 1195888, 489  
1812,1813,1816, 1188798, 469,1690,1691, 1196144, 1800,1919  
1829,1832,1860, 1692,1813,1829, 1196290, 1881  
1862,1866,1871, 1830,1879,1902, 1196329, 1892  
1872,1873,1879, 1903,2037,2049, 1196470, 1165  
1902,1913,2050, 2050 1196799, 475,1690,1691,  
2051 1188799, 469,1690,1691, 1829  
1182739, 2585 1692,1829,1830, 1197019, 1919  
1183098, 586 1879,1902,1903, 1197304, 1880  
1183201, 2059 1913,2037 1197983, 1881  
1183358, 2601 1188800, 469,1690,1691, 1198142, 1152  
1183393, 586 1692,1829,1830, 1199101, 1914  
1183694, 485,1165 1879,1902,1903, 469,1690,1691,  
1183698, 486,1690,2501 1913,2037,2049, 1803,1829,1903,  
1184164, 1830,1914 2050 2037  
1184257, 414, 476,1690, 1189549, 1803 1199479, 1892  
1692,1879 1189803, 1800,1803,1804, 469,1690,1691,  
1184772, 478,1690,1856 1814,1830,1881, 1692,1813,1879,  
1185074, 385, 455,1690, 1883 1901,1902,1903,  
1803,1879,1880, 1189804, 1297,1803,1804, 1914,1931,2016,  
1881,1944,2049, 1814,1830,1881, 2026,2054,2608  
2050,2563 1883  
1185514, 468,1690,1691, 1189841, 1879,1881 1199799, 469,1690,1691,  
1692,1800,1803, 1190160, 1814 1813,1816,1829,  
1829,1837,1879, 1190161, 1814 1834,1835,1836,  
1880,1884 1190170, 1169 1837,1903,2050  
1185641, 1803,1804,1830, 1190659, 1252,1272 1199800, 469, 559,1690,  
1864,1880,1881, 1190806, 1919 1691,1692,1813,  
1927 1190807, 1919 1816,1818,1823,  
1185654, 1806 1191390, 1800, 1803 1829,1830,1837,  
1185707, 2049 1191439, 412, 428, 466, 1844,1864,1868,  
1186052, 488 483 1872,1880,1881,  
1187231, 1880,1881 1191801, 468,1690,1692, 1903,1911,1919,  
1187929, 628 1803,2052,2053, 1927,1929,1937,  
1188014, 1881 2054 1939,1957,1959,  
1188356, 416,1801,1810, 1192756, 1803 1960,1962,1963,  
1879,1902,2049, 1192816, 577 1964,1965,1978,  
2608 1193178, 475,1690,1692, 2049,2050  
1188376, 11, 222, 415, 1903,1964,2052 1200848, 1264  
1180,1418,1607, 1193795, 1892 1200886, 481,1690,1879,  
1687,1699,1799, 1192883, 1804 1882,2006  
1800,1805,1813, 1194095, 1880 1201181, 1803,1804,1881  
1825,1827,1840, 1194176, 1962 1201260, 446,1690,1691,  
1842,1867,1880, 1194201, 1803,1880,1881, 1813,1879,1914  
1901,1903,1910, 2050 1201758, 1274,1358  
1935,1936,1939, 1195040, 355, 468,1690, 1201850, 1881,1892  
1940,1943,1952, 1692,1866,1879, 1202040, 1295  
2019,2033,2049, 1880,1914,2049, 1202317, 1881  
2054,2514 2051  
1188439, 1881,2054 1195090, 1803 1202490, 1829,1919



## United States

- 1202495, 1879,2054  
 1202638, 2600  
 1202712, 1892  
 1203747, 1165  
 1203756, 470,1690,1691,  
 1692,1829,1830,  
 1879,1903,1914,  
 2037  
 1204629, 1803  
 1204697, 1803  
 1204709, 1880  
 1204851, 1803, 1830  
 1205007, 1165  
 1205822, 486,1690,1691,  
 1829,1879,1919,  
 1937  
 1205829, 1165  
 1205957, 1860  
 1206222, 1823,1838  
 1206287, 436  
 1207383, 2601  
 1208358, 1836,1880,1914,  
 1919  
 1209165, 464  
 1209333, 1253,1803,1873,  
 1881,1890  
 1209657, 2128  
 1209661, 2471  
 1209964, 1152  
 1210987, 1879,2588  
 1211227, 1881  
 1212196, 1165  
 1212573, 1165  
 1213051, 1881,2603  
 1213115, 1165,2173  
 1213144, 1881  
 1213367, 1838,1869  
 1213368, 1838  
 1213369, 1838  
 1213726, 1881  
 1214518, 1892  
 1215875, 2471  
 1215876, 2471  
 1216174, 1252  
 1216265, 1803,2054  
 1216266, 1803,2054  
 1216462, 412, 428, 467,  
 483  
 1216581, 470,1690,1691,  
 1692,1879,1881,  
 2022  
 1216728, 478  
 1216812, 1931  
 1217027, 21, 416,1157,  
 1338,1418,1690,  
 1803,1804,1813,  
 1823,1829,1830,  
 1841,1879,1880,  
 1891,1902,1903,  
 1914,1917,1920,  
 1934,1939,1940,  
 1952,2017,2019,  
 2031,2033,2049,  
 2053,2054,2517  
 1217028, 21, 416,1157,  
 1164,1338,1418,  
 1482,1690,1804,  
 1813,1823,1830,  
 1864,1880,1881,  
 1903,1914,1917,  
 1920,1934,1939,  
 1940,1952,2017,  
 2019,2033,2049,  
 2056,2057,2071,  
 2173,2216  
 1217115, 1801,2054  
 1217123, 468,1690,1881  
 1217213, 1804  
 1217214, 1804  
 1217215, 1804  
 1217722, 408, 450, 451,  
 522, 635, 778,  
 1690,1691,1692,  
 1813,1879,1914  
 1218332, 1890  
 1218464, 2608  
 1218616, 2128  
 1218638,1177  
 1218655, 1264  
 1218678, 1165  
 1218954, 1135  
 1219572, 1275  
 1219595, 1291  
 1220401, 1803,1804  
 1221457, 1879, 1919  
 1221979, 1165  
 1223158, 1806  
 1223538, 1879  
 1224485, 1823  
 1225226, 1892  
 1225748, 1801, 1881  
 1225749, 1801,1881  
 1225750, 1801,1881  
 1226339, 470,1690,1691,  
 1803,1829,2037  
 1226340, 470,1690,1691,  
 1692,1829,1830,  
 1843,1903,2037  
 1226341, 470,1690,1691,  
 1803,1829,2037  
 1226342, 470,1690,1691,  
 1692,1829,1879,  
 1880,1902,1903,  
 1913,2037  
 1226343, 470,1690,1691,  
 1692,1829,1830,  
 1843,1903,2037  
 1226655, 460,1690  
 1226760, 1800,1803  
 1227624, 1253  
 1228165, 438  
 1228225, 2128  
 1228428, 1881,2054  
 1228468, 1829  
 1228587, 1165  
 1228680, 1804  
 1228926, 1253  
 1229181, 1152  
 1229247, 1803,1804  
 1229367, 1165  
 1229485, 470,1690,1692,  
 1813,1829,1830,  
 1880,1881,1903,  
 2037,2050  
 1229486, 470,1690,1692,  
 1824,1830,1880,  
 1881,1903,2037,  
 2050  
 1229487, 470,1690,1692,  
 1813,1829,1830,  
 1880,1881,1903,  
 2022,2050  
 1229681, 1273  
 1230290, 1902  
 1230816, 437,2604  
 1230829, 1881  
 1230899, 1892  
 1231123, 1823  
 1232702, 563,1690  
 1233333, 1919  
 1233374, 470,1960,2049  
 1233415, 1803  
 1233416, 1803  
 1233986, 1294  
 1234156, 1868  
 1234381, 1803,2049,2050  
 1234450, 2049,2601  
 1234720, 467,1619  
 1234921, 1865,1868,1914  
 1235037, 2059  
 1235154, 1919  
 1235283, 1823  
 1235721, 1803,1804  
 1236460, 1880,1881  
 1236578, 471, 598,1152,  
 1686,1690,1691,  
 1692,1813,1879  
 1236579, 471, 598,1152,  
 1691,1692,1813  
 1236622, 1814  
 1236719, 2128

1236959, 1880	2027,2054,2608	555,1691,1813
1237076, 1823	1245553, 1252	1259472, 1881
1238154, 464	1245818, 1891,2059	1259473, 1881
1239867, 1888	1245822, 486,1960 2501	1259517, 1253
1240344, 1803	1245975, 1909,2033,2056	1259757, 1838
1240616, 2049	1245976, 1800,1891,1894,	1259758, 1838
1241738, 464,1690,1692,	2056,2059	1259806, 2059
1816,1823,1824,	1245979, 41	1260103, 1165
1879,1880,1881,	1245980, 1800	1260977, 461,1681,1690,
1914,1994,2049,	1245981, 1800,1803,1813,	1691,1829,1879,
2050	1880	1880,1913
1241789, 1892	1245982, 1803	1261005, 2128
1241995, 420, 466	1245983, 1800,1891,1902,	1261025, 1165
1242030, 1135	2056,2059	1261067, 1255
1242161, 1800,1803	1245984, 1800,1891,1894,	1261615, 1803,1881
1242208, 1252,1272,1274	2017,2033,2056,	1261747, 473,1690,2502
1242491, 1919	2059	1261748, 473
1242592, 1880,1881,2050	1246379, 1152	1261811, 1868
1242593, 1880,1881,2050	1246640, 1814	1262267, 2480
1242783, 397, 453,1690,	1246641, 1812,1814	1262268, 2480
1691,1692,1813,	1246642, 1812,1814	1262769, 1252,1269,1274
1879,1902,1903,	1246739, 1296	1262825, 1919
2049,2050,2259	1246810, 1803	1263119, 480,1692
1243149, 1814	1247906, 486	1263171, 488,1690
1244107, 471,1690,1691,	1248092, 1909	1263186, 434
1692,1813,1818,	1248447, 1800	1263187, 434
1823,1829,1843,	1248468, 2601	1263284, 2054
1844,1879,1902,	1248638, 1803	1263906, 1252,1272,1274
1914,2037,2049	1248910, 2608	1264479, 2128
1244108, 471,1690,1691,	1248911, 2608	1264979, 2615
1692,1813,1818,	1249726, 1152	1265216, 472,1686,1691,
1823,1829,1843,	1249734, 1152	1692,1813,1829,
1844,1879,1902,	1250282, 1881,1892	1841,1914
1914,2038,2049	1250713, 486,1690,2501	1265217, 472,1691,1692,
1244347, 471,1690,1691,	1250822, 1829	1816,1829,1834,
1692,1813,1818,	1251261, 1152	1836,1837,1902,
1823,1829,1843,	1251862, 1919	2038,2049
1844,1879,1902,	1251863, 1803,1881	1265648, 1919
1914,2022,2038,	1252332, 1165	1266073, 1914,1919
2049	1252507, 1803	1267445, 1800,1919
1244348, 471,1690,1691,	1252849, 2618	1267785, 1868
1692,1813,1818,	1253055, 1255	1267883, 1880
1823,1829,1843,	1253252, 1256,1264	1268172, 1692
1844,1879,1902,	1253615, 474,1843	1269339, 1880,1881,1914
1914,2022,2038,	1253616, 474,1843	1260795, 1165
2049	1253956, 1919	1270325, 1931
1244349, 471,1690,1691,	1254216, 1691	1270392, 1814
1692,1813,1818,	1254365, 1165	1270393, 1814,1873
1823,1829,1843,	1254366, 1165	1270394, 1814
1844,1879,1902,	1254791, 1919,2618	1270395, 1814
1914,2038,2049	1254970, 1961	1270396, 1814
1244901, 481	1255139, 1800	1270397, 1814
1244902, 481	1255617, 474	1270759, 1838
1245476, 472,1690,1691,	1255950, 1963	1271115, 1880
1692,1813,1844,	1256240, 1880	1271506, 1909
1879,1901,1902,	1257591, 1165	1271591, 1881,1892
1903,1914,1931,	1258913, 412, 428, 467	1271790, 1273

## United States

1272522, 1297	1292819, 1960	2049
1273307, 1803, 1804, 1830, 1881	1294066, 2128	1310489, 1956, 2004, 2005
1273536, 1152	1294355, 1879, 2539	1310841, 479, 1690, 1691, 1804, 1869, 1879, 1913, 1914
1274430, 1881	1295241, 487	
1275063, 2049	1295339, 474	
1275208, 1358	1295533, 468, 1690, 1880	1311824, 558
1275324, 1891, 2059	1296847, 448, 1697, 1813, 1891	1312186, 1875
1275884, 456, 1690, 1691, 1692, 1813, 1879, 1891, 1913	1298199, 442, 460, 1829, 1879, 1882, 2019	1312452, 1804
1276742, 1909	1298476, 1177	1312708, 1689
1277155, 1165	1298477, 1177	1313650, 1182
1277695, 443, 2159	1298479, 1177	1313661, 1869
1277904, 1275, 1803, 1881	1298480, 1177	1314203, 1165
1278885, 450, 453, 778, 2089	1298481, 1177	1314204, 1165
1279200, 1229	1299408, 2480	1314920, 1806
1279328, 1229	1300218, 1803	1315216, 449, 1689, 1882, 1902, 2026
1279329, 1229	1300263, 1804	1315229, 1843, 1844
1280162, 1800	1300550, 1879, 1919	1315393, 1136
1280612, 1293	1301187, 1914	1315480, 452
1280861, 1800	1301652, 473, 1136	1315525, 1881
1280862, 1891, 1894, 2033, 2059	1301955, 474, 2482	1315542, 1823
1280974, 451, 452, 778	1302064, 1804	1315543, 1892
1280975, 451, 778, 2089	1302065, 1804	1315544, 1881
1281080, 47, 1813, 1827, 1829, 1830	1302202, 2004	1315545, 447, 1823
1281156, 1803, 1804	1302905, 1273	1315546, 1892
1281662, 1264	1303115, 1908, 1913, 1956, 2004	1315700, 2126
1282805, 1881, 1892	1303176, 1177	1315701, 2126
1283115, 522	1303177, 1177	1316295, 1804
1283183, 1883, 1892, 1894	1303563, 464, 1689, 1690, 1691, 1869, 1879, 1882, 1910, 1913, 1914	1316311, 468, 1690, 1691, 1879, 1880, 1891, 1892
1283391, 2471	1304108, 482	1316650, 2471
1283450, 437, 2606	1305946, 1564	1316782, 458, 1880
1285117, 2582	1306221, 1297	1316783, 458, 1880
1285823, 1273	1306440, 2004, 2005	1316784, 458
1286025, 412, 428, 467	1307033, 1838	1316804, 1291
1286172, 408, 452, 1690, 1691, 1813, 1879	1307805, 1800	1317276, 454, 1863
1286187, 1165	1308173, 1892	1317648, 1252, 1260
1286255, 1892	1308231, 1881	1317721, 475, 1493, 1690, 1881, 1976, 2050
1286256, 1892	1308796, 1838	1317950, 2480
1286353, 1252	1308797, 1838	1318461, 1938
1286370, 1803	1308803, 474, 2049	1318523, 2059
1286502, 1152	1309453, 441	1318524, 2059
1286503, 1152	1309581, 473, 1803, 1914	1319229, 472, 1690, 1691, 1813, 1841, 1844, 1879, 1903, 1914, 1931, 1964, 2026
1287592, 1165	1309723, 1165	1319666, 2056
1287793, 1879	1309980, 445, 1690, 1691, 1692, 1829, 1837, 1879, 1902, 1913, 1917, 1919, 1933, 1935, 2027, 2049, 2503	1320290, 485, 1689, 1690, 1802, 1863, 1864, 1879
1289053, 1165	1309981, 1829, 1837, 1880, 1918, 1919, 1933, 1935, 2001, 2027,	1320458, 1829, 1836, 1880, 1881, 1882, 1885, 1913, 1914, 1918, 1919
1289093, 439		1320701, 1165
1290794, 47, 482, 1829, 1880, 1919, 2049, 2530		
1292743, 1814		
1292744, 1814		

1321611, 1829,1835,1837, 1880,1892,1914, 1915,1918,1919, 2049	1338691, 1975 1339489, 1892 1339552, 520,1816,1823, 1834	1350533, 1804 1350820, 1935,1939,1952, 2019,2033,2049, 2050
1321633, 1804,1829,1880, 1892,1914,1915, 1919	1339675, 1272,1274 1339728, 584,1689,1692, 1864,1984,1986, 1988	1350981, 1918 1351529, 2619 1351652, 549,1690,1691, 1879,1880,1914
1321634, 1804,1829,1880, 1892,1914,1919	1339947, 1284,1298 1341207, 1919 1341710, 1800,1835,1914, 1919	1351672, 1914 1351990, 1922 1352216, 1879 1353384, 453, 520, 521, 635,1690,1879, 1880,1881,1902, 1903,1913,1914, 2029,2038,2039, 4020
1321708, 441,2059 1322631, 1879 1322737, 1881 1322786, 1919 1323624, 1804,1805,1835, 1880,1892,1918, 1919	1341740, 2601 1342067, 1881 1342267, 424, 562,1891, 1892,1920,2006 1342267, 2587 1342268, 424, 562,1920, 2587 1342326, 2601 1342601, 575,1690,1828, 1829,1835,1879, 1880,2050 1342602, 575,1690,1829, 1835,1879,1880, 1981 1342603, 575,1690,1691, 1692,1837,1879, 1880,1933 1342767, 1879,1919 1343063, 1564 1343135, 549,1690,1691, 1807,1879,1914 1343715, 1034 1343716, 541 1344962, 570 1345115, 492 1345354, 519,1690,1880, 1885,2391 1345373, 1295 1346287, 1909 1347668, 492,2604 1347801, 590,1689,1690, 1692,1803,1880, 1881 1348167, 539 1348731, 1136 1348741, 1956 1348968, 2472 1349128, 2127 1349156, 549 1349265, 2259 1349983, 576 1350820, 44, 416,1164, 1418,1482 1350274, 1829,1918 1350281, 1914	1353385, 453, 520, 635, 1690,1879,1880, 1881,1902,1903, 1913,1914,2029, 2038,2039,2040 1353968, 2472 1354154, 1803,1881 1354401, 549,1690,1691, 1879,1880,1914 1354725, 506,1828,1829, 1903 1354726, 506,1690,1692, 1828,1879,1880, 1881,1903 1355402, 2128 1355586, 491 1355732, 1165 1355834, 2029,2030 1355976, 545,1690,1691, 1692,1800,1813, 1914,1919 1355978, 1813,1914 1355985, 2001 1356440, 1800,1835,1836, 1880,1892,1918, 1919 1356765, 1253 1356847, 492 1357160, 1273 1357335, 564,1892 1357447, 526,1690,1691, 1692,1879,1914, 2399 1357450, 41, 459,1760, 2032 1357614, 39,1803,1813, 2001 1357733, 576 1357876, 1914,1939,2050, 2051,2052
1323792, 1829,1880 1324227, 1880 1325363, 472,1689,1902, 2059 1325931, 452,1903 1326040, 454 1326432, 2128 1326639, 1879 1326917, 1800 1327197, 1880 1327737, 1892 1328080, 1803,1804,1814, 1830,1864,1881, 1927 1328371, 1881 1329211, 1564 1329212, 1564 1329386, 1800,1804,1880, 1913,1914,1919, 2059 1329435, 1264 1329503, 1829 1329525, 1880 1329583, 1796 1330543, 557,1691,1800, 1914 1331127, 570,1690,1879, 1881,2049,2050 1332860, 1803 1333700, 497,2210 1334360, 2128 1334637, 570 1336264, 1165 1336709, 1255,1256 1336952, 1291 1337253, 565 1338040, 1493 1338397, 1931 1338472, 1692 1338661, 559,1686,1690, 1691,1692,1813, 1879		

## United States

- 1358250, 572,1689  
 1358394, 1881  
 1358653, 2030,2049  
 1358914, 490,1882,1909  
 1359094, 1165  
 1359099, 1892  
 1359257, 614  
 1360356, 1891,2056  
 1360759, 550,1829,1880,  
 1914,1919,1923,  
 2027  
 1360763, 1829,1919  
 1360872, 1803 1880  
 1361153, 1803  
 1361783, 583,1690,1919  
 1362355, 572  
 1363763, 1689,1690,1691,  
 1692,1803,1836,  
 1879,1880,1882,  
 1888,1891,1892,  
 1902,1903,1913,  
 1943,1988  
 1363870, 1803  
 1364952, 1814  
 1365024, 1297  
 1365039, 1182  
 1365049, 527,1689,1801,  
 1914,1916,1917,  
 1918  
 1365053, 527,1881,1892  
 1365128, 1165  
 1365607, 2471  
 1365740, 1252,1272  
 1365791, 2127  
 1365882, 2059,2174  
 1366023, 498, 569,2306  
 1366256, 101,1879,2484  
 1367009, 2127  
 1367724, 1253,1273  
 1367886, 565,1690,1881,  
 2050  
 1367930, 1924  
 1368601, 2127  
 1368753, 1803  
 1368789, 522  
 1368867, 586  
 1368954, 1836,1962  
 1369467, 1919,1933  
 1369596, 1829  
 1370195, 1803  
 1370666, 1803,1880,1881  
 1370843, 1887  
 1370853, 581,1879,1880,  
 1897,2049,2052  
 1370878, 509,1829,1837,  
 1880,1918,1919,  
 1933,1935,2001
- 1370879, 509,1690,1691,  
 1837,1879,1913,  
 1917,1933,1935,  
 2001  
 1370922, 1829,1835,1837,  
 1880,1914  
 1371157, 1493,1804  
 1371546, 2126  
 1371611, 1033  
 1371914, 2128  
 1372021, 1919  
 1372434, 1871  
 1372478, 498  
 1374871, 182,2509  
 1375208, 443, 506,1919,  
 1920  
 1375345, 586  
 1375714, 2205  
 1375919, 2259  
 1376069, 2126  
 1376582, 1165  
 1376665, 586  
 1377152, 1804  
 1377519, 1881  
 1377677, 1879,1881,1920,  
 2050  
 1377761, 1880,1914  
 1378099, 1924  
 1378443, 510, 622,2223,  
 2299  
 1378804, 1918,1919,2482  
 1378858, 1803  
 1379351, 1537  
 1379590, 1152  
 1379596, 575,1835,1836,  
 1837,1880,1901  
 1379699, 473,1411  
 1380258, 1829,1835,1837,  
 1880  
 1381002, 2126  
 1381022, 574  
 1381412, 1919  
 1381440, 1909  
 1381485, 1800,1803,1804,  
 1881  
 1381564, 1860  
 1381782, 491  
 1382077, 539,1880,1881  
 1382613, 1920  
 1382889, 2128  
 1382890, 2127  
 1383385, 521  
 1383740, 1803  
 1383864, 1881  
 1384037, 1165  
 1384188, 539,1691,1692,  
 1812,1813,1829
- 1384842, 562, 563  
 1385033, 1152  
 1385034, 1152  
 1385081, 1814  
 1385229, 1829  
 1386118, 1843  
 1386497, 1253,1255  
 1386576, 559,1690,1691,  
 1692,1813,1841,  
 1844,1879,1881,  
 1902,1903,1914,  
 1931,2027,2608  
 1387004, 2057  
 1388472, 559,1690,1691,  
 1692,1813,1816,  
 1819,1823,1829,  
 1830,1837,1844,  
 1864,1868,1872,  
 1879,1880,1881,  
 1903,1911,1919,  
 1927,1929,1937,  
 1939,1957,1959,  
 1960,1962,1964,  
 1965,1978,2022,  
 2049,2050  
 1388531, 1803  
 1388546, 1836,1880  
 1388824, 1689,1690,1692,  
 1814,2059  
 1388825, 491,1689,1690,  
 1692,1814  
 1388826, 491,1690,1814  
 1388827, 491,1689,1690,  
 1692,1814,1881  
 1388828, 491,1689,1690,  
 1692,1814,1881  
 1388829, 1690,1814  
 1388841, 492  
 1389084, 100,1689,1690,  
 1691,1692,1703,  
 1859,1880,1881,  
 1891,1892,1903,  
 1914,1920,2017,  
 2049  
 1389203, 2127  
 1389250, 555  
 1389574, 1804,1814,1879  
 1389575, 1814,1879  
 1390252, 577,1920,2017,  
 2532  
 1390537, 1880  
 1390689, 1152  
 1391757, 1882  
 1391758, 1820  
 1392047, 1177  
 1392768, 1256

- 1392849, 567,1691,1838, 1880,1976  
 1879,1880,1881 1398947, 1803,1835 1840,1844,1880  
 1392851, 2019 1398949, 581,1690,1935 1408816, 1879,2019,2472  
 1393124, 1255,2059 1399026, 572 1409098, 541  
 1393239, 1804 1399238, 1279 1410037, 1176  
 1393290, 1879 1399312, 1275 1410207, 563, 812  
 1393355, 528,1689,1691, 1400195, 587 1410790, 589,1691,1692,  
 1879,1880,1913, 1400196, 587,1690,1691, 1879,1880,1913,  
 1914,1919,2059 1803,1835,1836, 1914,1919  
 1394241, 1177 1411035, 1803  
 1394505, 54,1812,1813, 1411050, 1800,1803  
 1903,2050 1411215, 1259,1285  
 1394664, 503,1297 1411422, 520  
 1394752, 564,1690 1411669, 567,1914  
 1394890, 537,1689,1691, 1411677, 99,1835,2516  
 1692,1864,1879, 1411708, 51,1297,1826,  
 1880,1903,1913, 1830,1835,1837,  
 1914,1927,1960, 1903,2050  
 1999,2027 1412233, 1803,1835,1914  
 1395016, 571 1412762, 1829  
 1395242, 1880,1881 1412770, 1914  
 1395396, 1804 1412937, 2045  
 1395401, 522,1691,1692, 1413144, 1880,1881,2582  
 1829,1879,1913, 1413145, 1880,1881,2582  
 1986,1988 1413494, 1256  
 1395409, 1804 1413666, 1803  
 1395905, 52,1803,1963 1414029, 2259  
 1395940, 2127 1414030, 2259  
 1396021, 1803 1414031, 2259  
 1396075, 580,2054 1414115, 1919  
 1396389, 586 1414139, 1803,1804,1881  
 1396592, 1829 1414169, 1273  
 1396878, 569 1414609, 1909  
 1397042, 1919 1414759, 1803,1914  
 1397103, 556,1691,1692, 1415023, 55,1443  
 1817,1879 1415059, 1829,1835,1837,  
 1397134, 560,1824 1856,1880,2050  
 1397144, 568,1165,1801, 1415340, 1969  
 1880,1881 1415570, 1927  
 1397173, 1804,1914,1933 1415700, 1291  
 1397493, 1914,1933 1415899, 1887  
 1397913, 1959 1416493, 1914  
 1397986, 574,1691,1880, 1417587, 1691,1879,1903  
 1917 1418347, 589,1691,1879,  
 1398143, 1803,1880,1881 1880,2400  
 1398144, 1803,1881 1418349, 589  
 1398239, 1829,1834,1835, 1418363, 2127  
 1836,1880,1913, 1418405, 98,1813,1829,  
 1914,1919,1933, 1830,1914,2514  
 1935,2020 1418413, 99,1813,1903,  
 1398357, 499,2223 2049  
 1398378, 1152 1418448, 1867  
 1398525, 1800,1880,2173 1418609, 1814  
 1398804, 1799,2059 1418730, 1909  
 1398931, 2057 1418882, 571  
 1398939, 509,1690,1691, 1418891, 1880,1881  
 1829,1835,1837, 1418904, 1253  
 1408423, 526,1691,1692, 1419258, 1837,1919

## United States

1419910, 1803	1425982, 1800	1431455, 1804
1419969, 550	1426380, 1264	1431470, 1264
1419998, 1879	1426457, 1936	1431845, 575,1692,1863, 1864,2032
1420006, 1835,1880,1883, 1914	1426521, 582,1689,1691, 1862,1864,1879, 1913,1930,1931	1431894, 563,1690,2507
1420007, 1803,1835,1914	1426538, 2471	1431900, 131,1829,1835, 1856,1880,2049, 2050,2599
1420028, 526,1690,1691, 1692,1813,1829, 1841,1879,1891, 1914	1426678, 1860	1431905, 51,1805,1829, 1830,1834,1903, 2049,2050
1420198, 1297	1427134, 1804	1431906, 52,1813,1829, 1830,1831,1914
1420303, 1165	1427215, 1283	1431950, 1837
1420622, 1880	1427330, 571,2371	1432110, 1800
1421288, 565,1691,1692, 1701,2259	1427595, 1881	1432354, 1837
1421289, 565,1691,1692, 1701,2259	1427645, 1800,1891,2059	1432364, 97,1817,1829, 1830,1835
1421290, 565,1691,1692, 1701,2259	1427690, 43,1803,2580	1432365, 97,1817,1913, 1914,1932,1933, 1935
1421341, 591,1691,1813, 1879,1880,1891, 1892,1914	1427754, 1804,1919	1432366, 98,1690,1813, 1880,2514
1421428, 1814	1427911, 1803	1432367, 98,1690,1691, 1813,1879,1880, 2515
1421604, 580,1943,1947, 1949	1427941, 497,1689,1838, 1880,1919,2059, 2482	1432368, 98,1690,1813, 1829,1837,1856, 1880,2049,2050, 2515
1421605, 580,1936,1949	1428207, 1814	1432373, 99,1816,1823, 1829,1830,1903, 2049,2050
1421728, 1924	1428668, 577	1432374, 99,1829,1830, 1835,1837,1903, 1913,2049,2050
1421733, 1252,1255,1273, 1275	1428885, 1803	1432937, 1681
1421879, 1910,1914,1937	1428913, 1803,1835	1433308, 1916,1947,1951
1421974, 1836,1962	1428913, 1803,1835	1433925, 493
1422496, 1165	1429153, 92,1666,1690, 1691,1692,1829, 1880,1903,1913, 1914,2031,2049, 2513	1434157, 2619
1422838, 1252	1429169, 95,1820,1829, 1830,1903,2049, 2050	1434306, 1256
1422869, 555	1429174, 1829,1835,1880, 1881,1935	1434426, 51,1829,1830, 1835,1859,1903, 2049
1423048, 1803,1835,1914	1429179, 99,1803,1829, 1830,1880,1920, 2516	1434427, 51,1818,1830, 1835,1903,2049
1423049, 1803,1835,1914	1429188, 51,1816,1822, 1829,1830,1835, 1837,1903,2049, 2050	1434432, 54,1803,1814, 1903,2049
1423050, 1803,1835,1914	1429237, 2471	1434453, 1829,1835,1836, 1837,1856,1880, 2049,2050
1423058, 1803,1835,1914	1429295, 566,1689,1691, 1692,1813,1879, 1880,1919	1434454, 1829,1835,1836, 1837,1856,1880, 2050
1423527, 1165	1429342, 1969	1434465, 99,1814,1903, 1913,1914,1916, 1917,2049,2050
1424137, 2582	1429650, 577	
1424668, 1804	1429714, 1256,1275	
1425130, 568,1253	1429856, 2128	
1425136, 1803	1430020, 1880,1901	
1425173, 52,1901,1903, 1914,2049,2050	1430035, 1182	
1425364, 499	1430059, 2259	
1425392, 556	1430060, 2259	
1425393, 556	1430061, 2259	
1425510, 1879,1891,1920	1430304, 522	
1425580, 529, 559,1152, 1691,1701	1430324, 1921	
1425581, 529,1152,1701	1431080, 1881	
1425625, 492,1936	1431301, 1892	
1425626, 492,1932		
1425654, 1232		
1425669, 563		
1425784, 1803		

1434634, 574,1691,1879, 1885,1887,1914, 2049	1440097, 1881 1440176, 2024 1440178, 571,1689,1690, 1691,1863,1864, 1879,1885,1902, 1903,1913,1927, 2059	1446874, 504 1447485, 1931 1447734, 1814 1447848, 1830 1448091, 96,1461 1448251, 731,2244 1448432, 510, 512, 622, 1891,2236 1448515, 2259 1448556, 1880,1881 1448869, 1901,1903,1906 1449156, 587,1930,1931, 1949,1970 1449157, 587,1691,1879, 1880,1913,1914, 1930,1931,1949, 1970 1450493, 527 1450714, 51,1825,1829, 1830,1903,1998, 2049,2050, 1450715, 51,1829,1830, 1903,1962,2049, 2050 1450716, 51,1829,1830, 1903,1998,2049, 2050 1450982, 1875,1922 1450984, 563 1451092, 1803 1451313, 491,2059 1451330, 58,1264,1422, 1535,1592,1596, 1604,1608,1827 1451331, 39,1535,1591, 1594,1604,1610 1452778, 2128 1453764, 566,1691,1692 1451843, 1881 1452086, 1880,1881 1453764, 1879,1880,1881, 1903,2049 1454604, 1838 1454873, 1253,1273 1454959, 60,1264,1273, 1289,1690,1691, 1692,1879,1880, 1903,2029,2038 1454960, 60,1264,1273, 1289,1595,1604, 1690,1691,1692, 1879,1880,1903, 2029,2039 1454961, 60,1264,1273, 1289,1690,1691, 1692,1880,1903, 2029,2040
1437292, 1165 1437483, 1892 1437491, 2130 1437792, 51,1813,1827, 1829,1830,1835, 1903,2049,2050 1437802, 1256 1437810, 81,1348,1690, 2512 1437820, 95,1444 1437821, 96,1444 1437828, 98,1690,1691, 1813,1879,1880, 2515 1437829, 98,1690,1691, 1813,1879,1880, 2515 1437952, 48,1690,1691, 1835,1837,1880, 1913,1914,1917, 1920,1929,1931, 2050,2051,2052 1437980, 2127 1438123, 1881 1438395, 46,1919,2619, 2620 1438823, 1880 1439056, 1803,1880,1881 1439293, 566,1273,1358, 1798,1800,1816, 1829,1834,1835, 1913,1914,1916, 1918,1919 1439377, 1949 1439505, 2024 1439605, 505,1949 1439656, 1834 1440006, 522,1690,1691, 1692,1803,1829, 1830,1879,1880, 1881,1888,1902, 1903,1913,1984	1440501, 578,2306 1440683, 1820 1440852, 1892 1440918, 1255 1441133, 1881 1441142, 53,1803,1834, 1880,2509 1441143, 52,1804,1829, 1830,1831,1903, 2049,2050 1441181, 96,1803,1809, 1813,1903,2049, 2050 1441185, 1829,1835,1836, 1837,1856,1879, 1880,2050 1441203, 1829,1880,1881 1441204, 1880,1881 1441205, 1880,1881 1441332, 1914 1441541, 484 1441989, 85,1418 1442386, 1838 1442420, 1881 1442520, 1870 1442631, 570 1442917, 2054 1443012, 1804,1879,2259 1443547, 2126 1443935, 1881 1443936, 1881 1444257, 86,1164,1488, 1569,2447 1444331, 51,1834,1835, 1903,2049,2662 1444333, 1829,1880,1881, 1963 1444351, 2662 1444406, 99,1840,1903, 2049 1444469, 1860 1444786, 536,1691,1813 1444802, 1291 1445382, 590,1690,1891, 2033 1445423, 1165 1446039, 1804 1446049, 1879,2535 1446050, 1879 1446873, 503	



## United States

1455508, 1252	1864, 1880, 2075	1467356, 1804
1456047, 48, 2605	1466329, 496, 2035	1467493, 567, 1690, 1691,
1456332, 1165	1466401, 551, 598	1880, 1885, 1891,
1456540, 1177	1466733, 98, 1829, 1837,	2075
1456781, 551	1880	1467749, 1804, 1879
1456782, 550, 1829, 1880,	1466819, 521, 1690, 2049	1467812, 1837
1914, 1919, 2026	1467030, 525, 2588	1467813, 1837
1456916, 1843	1467071, 95, 1824, 1880,	1468222, 495, 1903, 2024
1456959, 1843	1903, 1913, 2049	1468608, 1881
1457091, 2050	1467074, 581	1467609, 536, 1881, 1988
1457131, 590, 1690, 1692,	1467091, 52, 1827, 1903,	1468820, 1906, 2049
1891	1913, 1914, 2049,	1469053, 1880, 1883
1457484, 1892	2050	1469563, 1804
1458256, 99, 1834, 1835,	1467092, 51, 1830, 1903,	1469812, 52, 1830, 1835,
2413	1913, 1914, 2017,	1878, 1882, 1883,
1458493, 1800	2049, 2050	1903, 2049
1458505, 580, 1692, 1863,	1467093, 51, 1804, 1830,	1469813, 51, 1830, 1835,
1864, 1902, 1903	1903, 1913, 1914,	1903, 1958, 2049
1458542, 1881, 2056	2049, 2050	1469815, 92, 1690, 1691,
1458543, 2030	1467094, 51, 1830, 1903,	1880, 2050, 2051,
1458592, 93, 1574, 2527	1913, 1914, 2017,	2052, 2513
1458646, 1278	2049, 2050	1469816, 92, 1804, 1813,
1459971, 1812, 1936	1467095, 51, 1809, 1830,	1830, 1880, 1903,
1459177, 1253	1903, 1913, 1914,	1915, 2049, 2514
1459703, 1165	2049, 2050	1469824, 1227, 1241
1459777, 1252, 1253	1467096, 51, 1830, 1903,	1469825, 95, 1830, 1903,
1459971, 549, 1252, 1253,	1913, 1914, 2017,	1916, 1917, 2049,
1255, 1256	2049, 2050	2514
1460097, 54, 1845, 1903,	1467097, 50, 1830, 1903,	1469826, 95, 1830, 1887,
1913, 2024, 2049	1913, 1914, 1981,	1903, 1913, 1917,
1460690, 99, 1845, 1863,	2049, 2050	2049, 2514
1903, 2049	1467098, 50, 1830, 1880,	1468829, 2485
1460767, 1803, 1880	1889, 1903, 1913,	1469839, 550, 1880
1461161, 1879	1914, 2049, 2050	1469862, 99, 1830, 1835,
1462306, 571, 1898, 2051	1467099, 51, 1815, 1830,	1837, 1903, 1958,
1463190, 1297	1880, 1903, 1913,	2049
1463209, 540, 1892	1914, 2049, 2050	1469863, 99, 1830, 1835,
1463212, 1892	1467100, 50, 1823, 1830,	1837, 1903, 1927,
1463780, 1804	1880, 1903, 1913,	2049
1463864, 496, 1691, 1692,	1914, 2049, 2050	1470656, 1271, 1274
1880, 1902, 2049	1467101, 50, 1830, 1880,	1470711, 1232
1463884, 1804	1903, 1913, 1914,	1470885, 1881
1464012, 1880, 1914	1985, 1988, 2049,	1471058, 1892
1464143, 1804	2050	1471213, 1256, 1273, 1275
1464153, 100, 1278, 1298	1467102, 50, 1811, 1830,	1471592, 1273
1464158, 95, 1444	1880, 1903, 1913,	1471699, 564, 1152, 1690
1464169, 52, 1812, 1813,	1914, 2049, 2050	1472165, 1879, 1920
1903, 1913, 2049	1467103, 50, 1830, 1880,	1472322, 1177
1464170, 51, 1812, 1816,	1903, 1913, 1914,	1472324, 1931, 1932
1823, 1903, 1913,	1951, 2049, 2050	1472830, 1909
2049	1467104, 50, 1830, 1867,	1473178, 2057
1464242, 1914	1880, 1903, 1913,	1473217, 53, 1830, 1903,
1464949, 560	1914, 2049, 2050	1932, 1933, 1949,
1465595, 1844	1467105, 50, 1824, 1830,	2049
1465601, 1844	1880, 1903, 1913,	1473218, 53, 1830, 1842,
1465937, 536, 1691, 1880	1914, 2049, 2050	1903, 1932, 1949,
1465994, 567, 1690, 1691,	1467107, 1227	2049

United States

1473219,	53,1830,1903,	1485254,	519,1690,2555	1494471,	68,1829,1830,
	1932,1949,2049,	1485706,	1892		1903,1913,2017,
	2050	1485790,	2312		2050
1473285,	1887	1485844,	1892	1494472,	68,1829,1830,
1473550,	1255	1485894,	2445		1894,1903,1913,
1473641,	1165	1486245,	70,1690,1829,		2050
1473994,	1165		1835,1880,2512	1494473,	68,1829,1830,
1474035,	1886,1887	1487456,	1881		1903,1913,2016,
1474560,	2130	1487764,	1165		2050
1474574,	588,1698,1703	1487880,	1804	1494474,	68,1829,1830,
1474830,	1803,1914,2050	1488055,	1165		1890,1903,1913,
1475522,	1255,1256	1488274,	1800		2050
1476374,	102, 128,1377	1488278,	1806,1881,1892	1494475,	68,1829,1830,
1476392,	506,1691,1880	1488294,	574,1690,1691,		1903,1913,2016,
1477113,	1291		1692,1803,1879,		2050
1477691,	2052		1880,1887,1902,	1494476,	68,1829,1830,
1477880,	1879,1920		1903,1914,2503		1903,1913,1959,
1477881,	1879,1920	1488355,	82,1420,1424,		2050
1477882,	1879,1920		1484	1494479,	70,1690,1829,
1477883,	1879, 1920	1488608,	563,1689,1690,		1856,1880,1913,
1477957,	719		1691,1692,1803,		2511,2529
1478137,	566,1691,1868,		1804,1829,1830,	1494816,	575, 713,1691,
	1880		1880,1881,1922,		1813,1880
1478926,	581		2396	1494830,	516,1691,1813,
1479293,	1256	1488609,	1690		1880
1479330,	1830	1488634,	525	1495461,	1165,1892
1479955,	51,1829,1835,	1489315,	55,1444	1495547,	1803,1883
	1836,1837,1871,	1489380,	493	1495789,	1152
	1873,1903,2050	1489744,	1881,2582	1496198,	2050
1480016,	574,1690,1691,	1489814,	498,2223	1496260,	1880
	1803,1842,1844,	1489915,	496	1496359,	96,1690
	1880,1881,1919	1490357,	1165	1496457,	1919
1480368,	1880	1491380,	1182	1496500,	1804,1914
1480372,	1870,1880	1491998,	1980,1988	1496506,	2000
1480896,	518	1492123,	1804,1914	1496675,	548,1823
1481326,	1892	1492155,	1800	1497028,	1906
1481485,	1881,2050	1492349,	504	1497137,	68,1829,1880
1482343,	1275,1291	1492350,	504	1497138,	68,1829,1880
1482717,	98,2515	1492580,	1804	1497251,	1255
1482336,	1804	1492717,	558, 687	1497252,	1256
1482340,	1804	1492718,	558	1497253,	1255
1482804,	1870	1493000,	1880	1497321,	496,1881
1482929,	1881	1493062,	1880,1881	1497600,	1176
1483587,	1800,1881	1493207,	91,1561,1829,	1497817,	1881
1483738,	44,1420,1537,		1880,1905,1906,	1497955,	1830
	1872,2057		1914,1919,2059	1498021,	1253,1274
1483797,	540, 611,1931	1493208,	92,1829,1880,	1498315,	493,2271
1483798,	540		1905,1914,1919	1498738,	555,2555
1484004,	48,1582,1600,	1493209,	92,2059,2580	1498781,	1838
	1690,1691,1880,	1493210,	92	1498782,	1838
	1881	1493874,	1880	1499001,	1812
1484249,	1261,1284,1298	1494469,	68,1829,1830,	1499002,	1812
1484289,	1269		1903,1913,1926,	1499025,	565
1484826,	591		2050	1499101,	527,1803,1804,
1485071,	1834,1835,1916,	1494470,	68,1829,1830,		1814,1864,1873,
	1917		1894,1903,1913,		1881
			2050	1499363,	1881

## United States

1499844, 575,2552	1507330, 1152	1518409, 92, 560,1690,
1500220, 1152	1507624, 2030	2513
1500303, 1881	1508457, 1829,1837,1905,	1518417, 97,1803,1829,
1500366, 50,1829,1830,	1914,1919,2049	1830,1903,2050
1880,1903,1913,	1508483, 1866,2049,2051	1518689, 1255
1914,2050	1508484, 1866,2049,2051	1518944, 581
1500393, 1803,1813	1508840, 63,2156,2161	1519239, 512
1500844, 1880,1881	1508928, 521,1264,1690,	1519311, 1152
1501101, 1165	1691,1803,1879,	1519659, 1690,1803,1813,
1501111, 1152	1880,1881,1902,	2050
1501206, 520, 635,1264,	1903,1913,1914,	1520054, 525
1690,1691,1799,	2029,2041	1520506, 1252,1268
1803,1879,1881,	1508929, 1691	1520940, 525
1902,1903,1913,	1509273, 2059	1521055, 582, 727,1689,
1914,2029,2040	1509463, 1270	1862,1864,1892,
1501207, 59, 278,1431	1509603, 1823	1913,1930,1931,
1501321, 1165	1509864, 1924	2484
1501502, 582	1510284, 1165,1892	1521056, 582, 727,1689,
1501895, 1909	1510526, 1881	1861,1862,1864,
1501944, 1909	1510730, 1892	1892,1913,2032,
1502101, 1232	1510735, 50,1462	2045
1502379, 60, 89, 290,	1510739, 1829,1835,1836,	1521541, 1892
1382,1383,1656	1880,2049	1521859, 1882,1883
1502592, 1165	1510759, 1273	1521876, 644
1502896, 1881	1510779, 543,1690,1878,	1521881, 70,2512
1502945, 1152,1880,1881,	2564	1522257, 691
2059	1511741, 562	1522618, 630
1503453, 1914,1919	1511874, 63,2450,2541	1522852, 733,1921
1503604, 95,1152,1407	1512751, 535,1690,1803,	1523459, 1876
1503835, 555,1691,1829,	1879,1880,1914	1523742, 1686
1880	1513802, 517,1297	1523813, 687,1905
1503892, 541	1514274, 586	1523814, 687
1504178, 100,1255,1289,	1514283, 70,1690,1829,	1524133, 664
1337,1453,1486,	1880,1903,2050,	1525317, 2617
1607,1821,1827	2529	1526142, 494,2276
1504385, 1165,1892	1514508, 1880,1881	1526982, 2489
1504437, 1872	1514509, 1881,1980	1528291, 520,2027.2029,
1504837, 1880	1514655, 1152	2560
1505043, 83, 84,1347,	1515439, 1803	1528810, 590
1424,1483,1690,	1516064, 1803,1804,1830,	1529056, 132,1800,1882,
1692,1813,1920,	1948	1907,1910,1913,
2050,2054,2055,	1516225, 586, 690, 910,	1969,1999
2056,2057,2465	927,1691,1813,	1529084, 2618
1505044, 84, 85,1424,	1880	1529712, 702,2443
1426,1690,1801,	1516701, 1881,1892	1530987, 635,1913,2029,
1813,2035,2050,	1516757, 1880	2398
2054,2056,2465	1517520, 2471	1532190, 719
1505382, 1288	1517581, 530, 672,1891,	1532427, 596,2222
1505912, 1264	2032,2235,2237	1532795, 597,2541
1505990, 1177	1517591, 1891	1532796, 597
1506014, 559	1517627, 545,1690,2081	1532818, 654,2507
1506078, 2539	1517709, 512,1891,2236,	1532819, 654,2507
1506228, 1285,1298	2259	1533616, 1802,1834,1850,
1506963, 1814	1517892, 1914	1853,1897
1507174, 70,1690,2511,	1518182, 1274	1534019, 502, 611,2222
2512	1518396, 55,1690,1880,	1534506, 693,2250
1507210, 95,1445	2511	1534651, 687

- 1535438, 703,1358  
 1536052, 502,1836,1913  
 1536311, 713  
 1536312, 713  
 1536334, 644  
 1538030, 62,2339  
 1538859, 132,1562  
 1538860, 92,1561  
 1538861, 132,1836,1882,  
 2026  
 1538862, 132,1561  
 1540748, 1823  
 1541104, 49, 275,2111  
 1541693, 1906  
 1542541, 59,1431  
 1543310, 593,1408,1700  
 1544809, 620  
 1544810, 620  
 1544811, 620  
 1544812, 620  
 1544944, 713  
 1545144, 2173  
 1545819, 528,2282  
 1545836, 1951  
 1546211, 630  
 1546679, 598, 712  
 1546902, 679  
 1546969, 622  
 1547201, 1720  
 1547789, 622,2299  
 1548932, 621,1834  
 1548933, 52,1913,1926  
 1548938, 68, 128, 162,  
 1353,1361,1913,  
 2020  
 1549906, 622,2299  
 1550792, 1885  
 1551112, 693, 696,1817  
 1551791, 584,2084  
 1552792, 51,1927  
 1552793, 52,1860,1913  
 1552794, 52,1913,2023  
 1552795, 621,1834  
 1552796, 53,1834,1943  
 1552797, 54,1879  
 1552798, 54,1827,1834  
 1552799, 54,1825,1834  
 1552800, 53,1834,1882  
 1552801, 53,1928,1834  
 1552802, 53,1834,2048  
 1552803, 54,1913,1927  
 1552804, 54,1834,1836  
 1552805, 54,1834,1906  
 1552806, 54,1834,1909  
 1552808, 98,2485  
 1552935, 1916  
 1553252, 2120  
 1553271, 714,1940  
 1553924, 153, 579,1704  
 1554032, 1971  
 1554033, 705,1973  
 1554801, 500, 608, 927,  
 999  
 1555016, 2446  
 1555539, 732  
 1557147, 644  
 1557354, 648  
 1558175, 678,2605  
 1558299, 698,1925  
 1560542, 617,1971,2034  
 1560554, 644  
 1560620, 725  
 1560625, 1262,1269  
 1560965, 598  
 1562386, 1833,1969  
 1562544, 627,1833,1945,  
 1947,2330  
 1563203, 1807,2463  
 1563204, 46,1576,1807,  
 2463,2581  
 1563205, 86,1819,1891,  
 2032,2033,2441  
 1564664, 648,1833,2182,  
 2503  
 1566384, 521,1984,2088  
 1566398, 69,1446  
 1568955, 614,2559  
 1569692, 1228,1243  
 1570062, 661  
 1570076, 703  
 1570077, 703  
 1570078, 703  
 1570079, 703,1857  
 1570514, 516  
 1571320, 622,2271  
 1571474, 115,2115  
 1572232, 618,2504  
 1572461, 599,2391  
 1572698, 597  
 1572955, 2115  
 1574357, 599  
 1574561, 1247  
 1574748, 2271  
 1574796, 1283  
 1575324, 131,2276  
 1575778, 689,1904,1962  
 1575940, 710,1885  
 1575958, 731  
 1576454, 2617  
 1576503, 1867  
 1576544, 1867  
 1576631, 109  
 1576663, 1970  
 1578454, 690  
 1579248, 707  
 1580143, 685,1936  
 1580189, 1834,1981  
 1580287, 625,2554  
 1580795, 102, 128,1378  
 1581641, 684  
 1581902, 2582  
 1582605, 664  
 1583475, 130,2099,2115  
 1583658, 621  
 1583704, 128  
 1583709, 131, 222  
 1583717, 642  
 1586437, 598  
 1587269, 599,2503  
 1587270, 599  
 1587271, 599  
 1587272, 599  
 1587273, 599  
 1587274, 599,2503  
 1587669, 125,2260  
 1587708, 111,2275  
 1587954, 663,1493,2490  
 1589324, 102,1377  
 1589326, 128  
 1589327, 112, 128,1377  
 1589328, 112, 128,1377  
 1589329, 128  
 1589330, 128,1378  
 1589331, 128  
 1589332, 128,1378  
 1589372, 1279  
 1589606, 83, 87,1425  
 1589607, 84,1224,1428,  
 1663,1675  
 1589700, 291, 596,1855,  
 2558  
 1589875, 645,2429  
 1590097, 585  
 1590782, 727  
 1590783, 727,1931  
 1591590, 731, 942,1699  
 1591652, 613,1943,1974,  
 2396  
 1592082, 2582  
 1594525, 663,1493,2490  
 1594769, 109,1487,1488,  
 2492  
 1595178, 111,2276  
 1595506, 2041  
 1596545, 685,2552  
 1598474, 1946  
 1598522, 656  
 1598560, 1283  
 1599119, 1284  
 1599230, 69, 109, 215,  
 2083,2085

## United States

1599233, 627	639,2211,2242,	1635026, 599
1599489, 1168	2287,2661	1635637, 1168
1599506, 109	1618414, 113, 528, 609,	1635681, 689
1599508, 102,1362,1461	609, 639,2211,	1635862, 705,1882
1599569, 124,1801,1834,	2287	1636319, 1358
1876	1618415, 632, 639,2211,	1636491, 725,2445
1599748, 113,2275	2285	1636701, 625
1599963, 653	1618481, 1850,1853,1906,	1636952, 627
1600159, 734	1916	1637715, 2582
1600277, 499, 639,2211,	1618482, 1850,1913	1637972, 1268
2285	1618483, 1834,1850	1638577, 117,2529
1600700, 710,1991	1618484, 1850,1913,1916	1638713, 1995
1601607, 731,2443	1619111, 1179	1639080, 628,1944,2491
1601891, 723	1620636, 635	1639704, 1168
1602125, 49, 275,2111	1620977, 92,1563,1870	1640596, 107,2340
1602553, 1168	1621441, 724, 835	1640853, 1168
1602695, 671,2306	1621780, 661,1961	1641411, 618, 690
1602840, 2151,2173	1622122, 672	1641412, 618, 690
1604471, 680	1622368, 108, 229,2082,	1641413, 618, 690
1604884, 2491	2176	1641529, 1940
1606030, 2618	1623519, 599	1641710, 729
1606394, 594	1624810, 581, 724, 835,	1641965, 605,2211,2242
1607090, 686	1040	1642078, 2582
1607474, 694,1817	1624811, 581, 724	1642079, 2582
1607516, 525,1842,1862,	1624812, 724	1643355, 1168
2473	1625415, 86,1488,1575,	1643393, 1976
1607623, 2618	1807	1644131, 663,2588
1608742, 661,2489	1625416, 46, 86,1488,	1644417, 617,1847,1851,
1608743, 629,1965,2491	1575,1576,1807,	1853
1608881, 664,2488	2463	1644418, 617,1847,1851
1609393, 596	1626113, 1863	1644419, 617,1847,1851
1609702, 112,2275	1626916, 1893	1644420, 617,1847,1851
1610786, 677	1627407, 1097	1645141, 663,1493,2490
1610961, 671,2306	1627935, 131,2599	1645415, 2582
1611056, 694,2536	1629769, 731	1645450, 530,2222
1611139, 2585	1629999, 1358	1645791, 1823
1611169, 110,1333,2520	1630050, 2055	1645792, 1823
1611986, 502,2294	1630285, 734,2122	1645793, 1823
1612669, 729,1946,1953	1630593, 733	1645915, 688,1411
1613073, 1024	1630752, 294,1563	1647676, 706
1613228, 538,2208	1631062, 615,2145	1648509, 2031
1613366, 1941	1631468, 618	1650275, 665,2235
1613451, 69,1661	1631750, 691	1650989, 1753
1614883, 1855	1632802, 1168	1651366, 579,1494,1716
1615212, 614,2538	1633067, 107,1374,1562	1651578, 1860,1944,1982
1615242, 723,2306	1633160, 2195	1651611, 1155
1615343, 1149	1633292, 1913	1651639, 613,2316
1615416, 874	1633337, 2054	1651990, 579
1615417, 919	1633927, 860,1847,1854,	1651991, 579
1615770, 2617	1855	1652024, 686, 690
1616103, 502,2271	1634613, 110,2343	1652206, 684,2371
1616167, 1156	1634969, 2582	1652573, 688, 690,1408
1616169, 1156	1634980, 215, 624,2083	1653962, 2173
1616787, 635	1634986, 644	1654114, 2030
1616789, 2088	1635012, 1241	1654215, 2054
1617237, 617,1810	1635013, 128, 162,1353,	1655249, 164,2494
1618413, 113, 499, 609,	1360,1361,1365	1655395, 1155

1655677, 168, 690,2348  
 1655870, 686, 690  
 1655933, 593,2586  
 1656067, 1867  
 1656119, 641  
 1657172, 692,2561  
 1657255, 714, 798,2299,  
 2305  
 1658368, 601, 690  
 1658369, 139,1923,2509  
 1658510, 599,2503  
 1658606, 1226  
 1658725, 160, 690, 808,  
 2579  
 1659190, 2055  
 1659906, 1951  
 1659907, 1951  
 1660418, 530  
 1660756, 687  
 1661169, 141,1575,1836  
 1662514, 117,2273  
 1663100, 211  
 1663101, 211  
 1663183, 2582  
 1664033, 664,2490  
 1664675, 2498  
 1664777, 663,1493,2490  
 1665580, 2491  
 1665958, 114,2100,2106  
 1666377, 115, 2524  
 1666437, 614  
 1666447, 650  
 1666715, 672,2214  
 1667189, 2582  
 1667197, 2582  
 1667198, 2582  
 1667199, 2582  
 1667200, 2582  
 1667892, 655,2349  
 1668380, 706, 798  
 1668482, 597  
 1668483, 598  
 1668484, 598,1408  
 1668485, 598  
 1668944, 621, 943,1408  
 1668945, 621, 943,1408  
 1668946, 621  
 1668959, 650  
 1669158, 61,2088  
 1670727, 683  
 1671513, 627,1408  
 1672083, 278,2089  
 1672646, 720  
 1673111, 1945  
 1673301, 675,2261  
 1673627, 1753  
 1674168, 122,2295  
 1674401, 90,1641,1768  
 1674402, 1643  
 1674403, 161, 1644  
 1674404, 124,1644  
 1674405, 89,1768  
 1674611, 2489  
 1675498, 669  
 1675499, 669  
 1675631, 2014  
 1676362, 713,1913  
 1676454, 563  
 1676612, 1977  
 1677475, 652,2231  
 1677576, 2255  
 1677753, 144,1950  
 1678105, 2582  
 1678623, 2582  
 1679034, 664,2488  
 1679850, 49,2086  
 1679903, 128,1353  
 1679935, 608,2296  
 1679943, 162,1361  
 1679966, 162, 644,1406  
 1679994, 715  
 1680635, 706,1864  
 1680636, 706,1864  
 1680860, 720,1922  
 1680934, 139,1669  
 1681103, 626  
 1681155, 1165  
 1681684, 705  
 1681861, 943,1876  
 1682280, 1955  
 1682292, 88, 161,1722  
 1682293, 1723  
 1682294, 88, 161,1226,  
 1723  
 1682382, 123,1602,1682  
 1683347, 650,1014,1408  
 1683681, 85,1225  
 1683682, 293,1225,1241,  
 1422  
 1683831, 84,1429  
 1684732, 147,1645  
 1685220, 692  
 1685443, 167,1898  
 1685444, 167,1898  
 1686149, 106,2210,2220  
 1687059, 621, 943,1408  
 1687060, 621,1734  
 1688457, 63,2524  
 1688531,2089  
 1688532, 2089  
 1688553, 169,1586,2266  
 1688726, 1253  
 1689311, 732  
 1689426, 140,2348  
 1689762, 1992  
 1689894, 708,2104  
 1690481, 607,2212,2287  
 1690515, 2053,2582  
 1690620, 622, 758,1729  
 1690621, 622  
 1690632, 651  
 1690680, 1906  
 1690894, 1240  
 1691517, 115,2283  
 1692372, 146,2173,2178  
 1692492, 120,2260  
 1692493, 120,2260  
 1692584, 1838,1851  
 1692622, 614,1408,1409  
 1693331, 596  
 1693746, 140,1839  
 1693759, 160,2230  
 1693890, 638  
 1694127, 161, 190, 301,  
 1437,1450  
 1694413, 639,2211  
 1694414, 966  
 1694562, 675  
 1695094, 2115  
 1695654, 168,2262  
 1696363, 609  
 1696432, 605, 926  
 1696474, 1240  
 1696479, 654  
 1697077, 812,2599  
 1697109, 772  
 1697907, 774,1408  
 1698048, 758,1737,1740  
 1698049, 759,1740  
 1698705, 664, 801,2490  
 1698870, 802  
 1699245, 2054  
 1700778, 211  
 1700779, 211  
 1701229, 780,1408  
 1701543, 1006  
 1702151, 1920  
 1702180, 1934,1952  
 1702181, 1837,1972  
 1702188, 1975  
 1702832, 808,2275  
 1703020, 835  
 1703415, 1972  
 1703470, 738,2508  
 1703675, 246,1568,2549  
 1703697, 2000  
 1704282, 759,1740  
 1704283, 759,1740  
 1704304, 209,1466  
 1704306, 835,1699,1728,  
 1735

## United States

- 1704965, 772  
 1705490, 2183  
 1706294, 203,2483,2486  
 1796295, 203,2486  
 1706484, 791,2255,2260  
 1706498, 825,2255  
 1707164, 804,2368  
 1708404, 1978  
 1708787, 778  
 1709056, 2059  
 1709256, 212  
 1709292, 212,2256  
 1709470, 798,2133  
 1709490, 2582  
 1709513, 735  
 1710007, 208,2239  
 1710078, 1968,1971  
 1710453, 1977  
 1710992, 2256  
 1711110, 958,1169,1409  
 1711111, 773,1169,1408  
 1711314, 797  
 1711390, 805,2252  
 1711391, 806,2252  
 1711873, 737,2251  
 1711890, 148,2262  
 1711940, 796  
 1711941, 796  
 1711956, 810,2472  
 1713104, 211,1720  
 1713289, 808  
 1713482, 820,2566  
 1713512, 761,1833  
 1713679, 829,2369  
 1713997, 761,1833  
 1714565, 160,1385  
 1714783, 800  
 1715313, 835  
 1715688, 2582  
 1716250, 836,2434  
 1716255, 841,2354  
 1716418, 182,1374,2510  
 1716419, 182,1374,2510  
 1716420, 182,1374,2510  
 1716422, 759,1740  
 1716423, 760  
 1716720, 2243,2266  
 1716721, 2210,2266,2269  
 1716781, 160,2112  
 1717242, 814,2224,2312  
 1717809, 819  
 1718966, 246,1568,2549  
 1719173, 766  
 1719324, 780,2266  
 1719944, 208,2256  
 1720192, 840,2559  
 1720243, 810,2472  
 1720749, 825  
 1721295, 1906  
 1721742, 816  
 1721873, 1251  
 1721974, 1165  
 1722202, 763  
 1722532, 812  
 1722554, 2582  
 1722566, 2582  
 1722776, 2582  
 1722914, 799,1408  
 1722927, 89, 205,1383  
 1722928, 89, 205,1383,  
 1383,1398  
 1723230, 780,2266  
 1723271, 780,2211  
 1723614, 797  
 1723632, 211,2410  
 1723724, 760  
 1725699, 849,2435  
 1725742, 2173,2175  
 1725773, 841  
 1725829, 823  
 1725857, 105, 767,2203  
 1726142, 1410  
 1726357, 810  
 1727039, 822,2604  
 1727040, 822,2604  
 1727862, 760,2462  
 1728073, 816  
 1728206, 799,1699  
 1729072, 664,2488  
 1729628, 1169  
 1730061, 1853  
 1730211, 190, 208,2256,  
 2314  
 1730587, 626  
 1731298, 767,2153  
 1731299, 773,1408  
 1731317, 819  
 1731332, 1922  
 1731333, 1921  
 1732124, 188,1951,1999,  
 2414  
 1732330, 768,2560,2605  
 1732340, 213, 818,2163  
 1732392, 1968  
 1732512, 2256  
 1732533, 736,2559  
 1733152, 793  
 1733268, 1295  
 1733393, 1233,1243  
 1733742, 1179  
 1734657, 1977  
 1735156, 183,1921  
 1735157, 183,1851  
 1735158, 183,1838  
 1735159, 759,1740  
 1735453, 800  
 1735901, 2287  
 1735956, 769  
 1735957, 769  
 1735958, 769  
 1735959, 769, 770  
 1735960, 142, 776,1586,  
 2287  
 1735961, 143, 777,1586,  
 2267  
 1735962, 769, 770  
 1735963, 142, 777,1587,  
 2267,2287  
 1736088, 207,2277  
 1737187, 139  
 1737943, 818,2617  
 1738649, 799  
 1738660, 814,2213  
 1738978, 841,2237,2270  
 1739210, 1028,1728  
 1739315, 1847,1939,1940  
 1739446, 2582  
 1739447, 2582  
 1739448, 2582  
 1739771, 2582  
 1740854, 798,2564  
 1740889, 767,2192  
 1740890, 780,2270  
 1740891, 780,2270  
 1742507, 1975  
 1742508, 1975  
 1742509, 1975  
 1742568, 2142  
 1742587, 58,2395  
 1742611, 893,1686  
 1743659, 633, 772  
 1744085, 1915  
 1744140, 296  
 1744281, 296,2443  
 1746663, 239,1486  
 1746751, 2530  
 1746895, 2046  
 1747540, 674,2319  
 1748014, 2186  
 1748689, 919  
 1749483, 884  
 1749743, 1969  
 1751685, 109, 122, 224,  
 1541,1542  
 1752596, 876,1409  
 1752853, 901  
 1753204, 663,1493,2490  
 1753205, 663,1493,2490  
 1754207, 1246  
 1754208, 1246  
 1755640, 114

- 1755657, 1230  
 1756035, 900  
 1756228, 2000  
 1756400, 209,2533  
 1756941, 2179  
 1757104, 2582  
 1757419, 2257  
 1757501, 2273  
 1757502, 2273  
 1757503, 2273  
 1757519, 2154  
 1759010, 2233  
 1759489, 2006  
 1757100, 912  
 1757158, 844  
 1757419, 275  
 1757501, 844  
 1757502, 845  
 1757503, 845  
 1757519, 113,1587  
 1759010, 611  
 1759489, 891  
 1760048, 868  
 1760806, 258,2258  
 1761813, 1939  
 1761814, 1939  
 1762937, 910  
 1762941, 919  
 1763035, 222,1563  
 1763428, 114,1661  
 1763618, 1969  
 1763955, 1925  
 1764204, 871  
 1764249, 869  
 1764624, 874  
 1765142, 114, 157,2277  
 1765318, 916  
 1765581, 714,2173  
 1766404, 668  
 1766822, 670  
 1767215, 204,2113  
 1767216, 159,2112  
 1767382, 246,1362  
 1768253, 1411  
 1768401, 2182  
 1769592, 1852  
 1769850, 2183  
 1770047, 2171  
 1770153, 860,1854  
 1770310, 884,2368  
 1770697, 664,2490  
 1770714, 722,2277  
 1771165, 224,1569,1604,  
 2493  
 1771460, 2030  
 1771461, 2030  
 1771462, 2030  
 1771529, 109, 122,1541  
 1771538, 1978,2397  
 1771553, 844  
 1772515, 161,2296  
 1772529, 1972  
 1773201, 900,1493  
 1773975, 2344  
 1774184, 607,2199  
 1774381, 254,2442  
 1774403, 1169  
 1774500, 203, 222,1273,  
 1871,1973,1974  
 1774621, 917,2301  
 1775179, 918,1882  
 1775691, 645,2430  
 1776368, 1938  
 1777445, 609,2170  
 1777953, 846,2251  
 1777970, 231,1612,1665  
 1778327, 722,2197  
 1778511, 802  
 1778567, 898,1976,1992,  
 2397  
 1778813, 899,2399  
 1779464, 142,2152  
 1779494, 127,2298  
 1780151, 847  
 1780320, 211,2300  
 1780347, 1173  
 1780391, 664,2488,2491  
 1780883, 124, 239,1876,  
 1986  
 1780983, 249,2466  
 1781018, 2186  
 1781084, 827,1077,2595  
 1781296, 893,2342  
 1781449, 1173  
 1782796, 696, 917  
 1783165, 1953,2582  
 1783166, 939,1953,2582  
 1783167, 2582  
 1783168, 2582  
 1783176, 891,2565  
 1783184, 861,1409  
 1783607, 142,2267  
 1783608, 608,2352  
 1783771, 666  
 1784423, 1270  
 1784583, 633  
 1784758, 1007  
 1785260, 664,2490,2491  
 1785466, 918,1738  
 1785930, 2582  
 1786404, 1952  
 1786781, 209,2405  
 1787484, 2604  
 1786989, 871  
 1787484, 990  
 1787542, 995  
 1788781, 300,1870,2473  
 1789121, 166,2476  
 1789122, 164,2239  
 1790169, 1169  
 1790599, 2115  
 1790987, 663, 664,1493,  
 2490  
 1791199, 277,1372  
 1791238, 1002  
 1791711, 1800  
 1791879, 1951  
 1791990, 2255  
 1792059, 922  
 1792095, 663,1493,1966,  
 2490  
 1792102, 1872  
 1792113, 2661  
 1792152, 967,2324  
 1792300, 973  
 1792348, 256,2250  
 1792457, 1561  
 1793360, 606  
 1793390, 2274,2661  
 1793667, 1971  
 1793726, 1017,1813,1944  
 1793915, 270,2357,2380  
 1794066, 296,1883  
 1794126, 1020  
 1794342, 2218  
 1795461, 732,1902  
 1795764, 300,2477  
 1795977, 1015  
 1795994, 928,2439  
 1706028, 717,2208  
 1797029, 717,2208  
 1706059, 1016  
 1796690, 975  
 1797843, 621  
 1798097, 2022  
 1798811, 1155  
 1798836, 2148  
 1799793, 663,1493  
 1800120, 1814  
 1800319, 1002  
 1800371, 925  
 1800860, 942,1699  
 1800904, 1180  
 1800944, 294  
 1801340, 1987  
 1801375, 1015  
 1801782, 1168  
 1802204, 276,2278  
 1802213, 993,2588  
 1802575, 1168  
 1802623, 2000



## United States

- 1802634, 2382  
 1802935, 2120  
 1802956, 1001,2358  
 1802984, 1168  
 1803008, 966,2212  
 1803174, 2582  
 1803672, 991,2199  
 1804503, 1926  
 1804529, 951,2205  
 1804530, 2114  
 1804555, 970  
 1804745, 943  
 1804967, 1179  
 1805117, 1149  
 1805127, 926  
 1805361, 840  
 1805365, 280,1438  
 1805467, 275,2145  
 1805468, 959,2156  
 1805715, 883,2259  
 1805919, 2257,2661  
 1806043, 624,2156  
 1806048, 2148  
 1806421, 1172  
 1806703, 296,1181,1628  
 1806965, 944, 964,2330,  
 2475  
 1807755, 1003,2141  
 1807810, 1002  
 1808061, 999,2172,2198  
 1808098, 927,2199  
 1808155, 1916  
 1808372, 999,2619  
 1808520, 939,2438  
 1808600, 970  
 1808998, 2514  
 1809011, 1905  
 1809234, 942,2563  
 1809276, 842,2588  
 1809303, 206  
 1809312, 1168  
 1809449, 2620  
 1809470, 2171  
 1810174, 975  
 1810192, 1262  
 1811322, 292,2609  
 1811576, 943,2282  
 1811689, 2525,2529,2661  
 1811972, 297,1579,2607  
 1812145, 968,1853,2399  
 1812335, 971,2397  
 1812790, 985,2314  
 1812885, 2619  
 1813530, 270,1583,2336  
 1813619, 279 1742  
 1813636, 1000  
 1813660, 267,1888  
 1813661, 267,1563,1820  
 1813662, 267,1826  
 1813665, 297,1445  
 1813685, 1014  
 1813726, 258,1448  
 1813735, 969,1906,1952,  
 1971,2396  
 1814106, 301,1172  
 1814155, 1179  
 1814208, 269,1463  
 1814468, 275,2111  
 1814641, 2621  
 1814823, 1944,1946  
 1815444, 248,1572,2405  
 1815655, 994,1966  
 1815802, 1005  
 1816326, 975  
 1816330, 1944  
 1816398, 296,2431  
 1816564, 915  
 1816766, 998,2244  
 1816845, 1270  
 1817005, 2541  
 1817318, 2661  
 1817561, 2047  
 1817614, 632  
 1817741, 2154  
 1817993, 992  
 1817994, 979  
 1818108, 1017,2563  
 1818466, 955,2147,2165  
 1818505, 2205  
 1818540, 952,2379  
 1818541, 966,2212  
 1818542, 966,2212  
 1818543, 966,2212  
 1818547, 1851  
 1818927, 2530  
 1819078, 2496  
 1819241, 2182  
 1819397, 783,1063,1696  
 1819563, 845  
 1819600, 278,1449  
 1820198, 1905  
 1821255, 928,2259  
 1821321, 1168  
 1821464, 2155  
 1822018, 2119  
 1822126, 1170  
 1822174, 1170  
 1822254, 1561  
 1822416, 2188  
 1822453, 2322  
 1822563, 838  
 1823192, 2193  
 1823260, 2497  
 1823348, 942  
 1823350, 943  
 1823359, 971,1021,1877  
 1823704, 1887  
 1823769, 1015,2181  
 1823847, 257,1600,1651  
 1824337, 965,2100,2529  
 1824690, 1006,2160  
 1824877, 949,1699  
 1824961, 998,1854,2661  
 1824963, 998,1855  
 1825307, 1175  
 1825342, 271,2357  
 1825586, 2339  
 1825798, 976,2490  
 1826228, 1018,2552  
 1826274, 2146  
 1826302, 806  
 1826335, 1014,1021,1877,  
 2506  
 1826608, 966,2172  
 1826667, 295,1827,2033  
 1826668, 295,2019  
 1826681, 300,1854,1898  
 1826687, 267,1893  
 1826688, 267,1867,1958  
 1826689, 267,1981  
 1826690, 267,1907  
 1826691, 267,1933  
 1826692, 267,1966  
 1826693, 267,1925  
 1826696, 268,2412  
 1826698, 268  
 1826699, 268,2412  
 1826718, 257, 821,2083,  
 2085  
 1826825, 1169  
 1827083, 2202  
 1827150, 975,2262  
 1827213, 2482  
 1827913, 891  
 1828334, 1155  
 1828374, 995  
 1828397, 270,2219  
 1828449, 297,1583,1951,  
 2394  
 1828766, 2488  
 1828848, 1168  
 1828974, 2535  
 1828982, 1039  
 1829130, 966,2270  
 1829157, 2599  
 1829480, 1955  
 1829481, 1955  
 1829678, 2120  
 1829702, 277  
 1829735, 1685,2313  
 1829750, 976,2490

1829822, 958	1836689, 1014	1843417, 2270
1829849, 2362	1836695, 1021	1843434, 1023
1829869, 1982	1836701, 303,1937	1843687, 2472
1829983, 270,2354,2373,	1836711, 971	1844098, 2596
2380	1836914, 1077,2585	1844204, 943,2200
1830255, 2151	1837150, 1561	1844350, 1033
1830489, 1013	1837680, 1006	1844365, 1038,1812,1943,
1830944, 291,1852,2399,	1838038, 305,1640,1765	1982
2572	1838070, 974,2045,2398	1844417, 924
1830980, 2497	1838071, 973,2045,2398	1844479, 1894,2430
1831025, 995	1838072, 973,2045,2398	1844714, 2006
1831101, 958	1838073, 2045	1844717, 1007,1460
1831102, 958	1838074, 973,2045,2398	1844718, 1015
1831274, 1021,1734	1838075, 973,2045,2398	1844754, 2481
1831435, 1050	1838076, 973,2045,2398	1844983, 2419
1831462, 294,1076,1570,	1838077, 973,2045,2398	1845007, 1279
1698,2586,2588,	1838078, 304,1374,1563,	1845037, 2180
2592	1568	1845107, 2179
1831559, 972	1838121, 1020,2191	1845133, 2594
1831560, 972	1838326, 1168	1845821, 2579
1831647, 1233	1838367, 1152	1846003, 2498,2499
1831795, 927,1055	1838368, 304,2393	1846346, 2472
1832208, 975,2244	1838523, 1025,2281	1846230, 2530
1832229, 1155	1838663, 305,1576,2196	1846575, 2535
1832322, 1087	1839135, 1561	1846627, 2119
1832381, 278,1741	1839136, 1561	1846666, 1262
1833086, 995,1851	1839161, 1955	1847111, 1173
1833136, 1014,2506	1839295, 838	1846797, 1000,2281,2325
1833250, 971	1839529, 1954,2397	1847827, 2121,2137
1833270, 287,1592,1601	1839774, 1231	1848105, 1874,1943
1833286, 278,1756	1839819, 1023,2255	1848155, 1973
1833526, 2021,2397	1839894, 1001	1848158, 2042,2621
1834040, 300,1352,1359	1839912, 822	1848190, 1078,2585
1834050, 303,1810,2393	1839932, 1002	1848268, 2437,2573
1834338, 2203	1839967, 985	1848329, 966
1834339, 304,1583,2203	1839978, 2180	1848504, 1015
1834388, 304	1839979, 2180	1848524, 971,1688
1834686, 1951,2494	1840162, 1170	1848553, 1006
1834806, 2114	1840198, 1408	1848560, 948
1834812, 1020	1840290, 1001	1848662, 1169
1834999, 2473	1840291, 1001	1848664, 1044
1835203, 303,1940	1840404, 993	1848772, 1088
1835403, 1686	1840413, 1171,1172	1848819, 2218
1835619, 2596	1840572, 966,2211	1849107, 1090
1835682, 1818	1841311, 939,1933	1849504, 1076
1835700, 965	1841312, 939,1983	1850836, 1875
1835746, 2585	1841313, 939,2005	1850929, 2402,2552,2661
1835747, 924,2585	1841335, 1433	1851507, 1087
1835866, 2381	1851689, 2596	1851664, 1032
1835915, 1016	1841745, 2596	1851665, 1359,2661
1835956, 2115	1842093, 974,2553	1851893, 1086
1835997, 2415,2569,2661	1842161, 1906	1852018, 2472
1836155, 304	1842168, 2606	1852137, 1084
1836254, 985	1842640, 1024,1969	1852581, 2431
1836527, 304,2196	1842648, 2444	1852891, 1023,2218
1836529, 305,2295	1842978, 1971	1854460, 2295
1836687, 1008,1956	1843214, 1030,2604	1854461, 2295

## United States

1854462, 2295	1860542, 1049	1867942, 1657
1854496, 2584	1860553, 1045	1867943, 1045
1854568, 1049	1860687, 1077,2555	1868067, 1093
1854581, 1262	1860822, 1873	1868077, 1068
1854894, 1088	1861026, 2140	1868202, 1088
1855072, 1040	1861200, 1738,1877	1868300, 1681
1855131, 2295	1861209, 1092,2491,2492	1868690, 2382
1855278, 1025,2222	1861260, 2499	1868851, 1857
1855332, 1170	1861320, 2331	1869286, 2296
1855366, 1995	1861912, 2097,2098	1869307, 1408
1855367, 1995	1861915, 1669,2591	1869660, 2643
1855681, 1800	1862565, 1810	1869958, 2382
1855744, 1333,1852,1943, 2410	1862589, 1062	1870018, 1077,2586
1856033, 1040	1863208, 1390	1870175, 1090
1856251, 1034	1863399, 1240	1870284, 1078,2596
1856369, 1969	1863698, 1046	1870357, 1049
1856370, 1969	1863745, 1439,1615	1870407, 2180
1856371, 1969	1863788, 1048	1870408, 2362
1856401, 2115,2102	1863834, 2408	1870556, 1055
1856425, 1039	1864006, 1075	1870594, 1055
1856639, 1035	1864058, 1045	1870635, 1056
1856713, 2218,2219	1864099, 1976	1870650, 1168
1856739, 1095	1864151, 1974	1870662, 2535
1856802, 2248,2249	1864152, 1974	1870693, 1077,2596
1856815, 2168	1864426, 2182	1870786, 2349
1857161, 1080,2480	1864428, 2182	1870834, 1045
1857163, 2203	1864531, 1045	1870837, 2349
1857183, 1050	1864546, 1434,1617	1870868, 2139
1857190, 1033,1057	1864554, 1361,1616	1870972, 1896,1900
1857224, 1040	1864643, 1045	1870980, 1057
1857562, 1037,1055,1350, 1364	1864754, 1890	1871046, 2360
1858017, 1227	1864794, 2618	1871047, 2162
1858018, 1421	1864983, 2586	1871278, 1098
1858019, 1538,1543,1581	1865062, 2257,2278	1871470, 2145
1858097, 1400	1865177, 1049	1871486, 2308
1858150, 1034,1045	1865196, 1855	1871673, 2254,2286
1858151, 1034,1045	1865358, 2092	1871725, 1077,2586
1858285, 1042,1861,1929, 2448	1865405, 1047	1871821, 2634
1858286, 1042,1861,1868	1865586, 2580	1871868, 1671
1858287, 1042,1861,1941	1865703, 2617	1872029, 1049
1858659, 1896	1865887, 1045	1872030, 1049
1858731, 1413,1435	1866153, 2164	1872076, 1098
1858859, 2465	1866532, 1057	1872227, 1542
1858993, 1057	1866686, 1056	1872553, 1078,2596
1859579, 1057	1866917, 1050	1872663, 1078,2596
1859786, 1047	1866964, 1068	1872692, 1078,2596
1859889, 1169	1866965, 1065,2535	1872693, 1078,2596
1860431, 1168,1169	1866971, 1057	1872700, 2630
1860432, 1169	1867009, 1078,2589	1872701, 1062
1860456, 2168	1867035, 1087	1872912, 2636
1860461, 1056	1867040, 1066	1872913, 2215
1860473, 2310	1867050, 1592,2624	1872914, 1048
1860512, 1045	1867085, 1079	1873248, 1079,2596
1860532, 1579,2412	1867123, 1696	1873280, 2596,2636
	1867658, 1590	1873689, 1994
	1867660, 1068	1873691, 1078,2586
	1867787, 2584,2636	1873862, 2380

1873863, 2380	1880466, 1056	1884318, 1947
1874176, 2147,2638	1880506, 1949	1884337, 1971
1874177, 2318,2638	1880507, 1948	1884338, 1063
1874310, 1977	1880508, 1949	1884433, 1092
1874350, 1054	1880513, 1842	1884619, 2060
1875185, 2187	1880514, 2007	1884620, 2317
1875368, 1046	1880515, 1738	1884621, 2307
1875688, 1050	1880558, 1617	1884622, 2165
1875894, 2177	1880559, 1603	1884623, 1069
1875964, 2596	1880560, 1056	1884624, 2594
1876130, 2370,2640	1880808, 1064	1884626, 1048
1876920, 2641	1881108, 2525	1884627, 1048
1877779, 1454	1881219, 2038	1884629, 2626
1877856, 1607,2646	1882554, 1728	1886441, 1100
1878249, 1857	1883346, 2328	1886775, 1100
1878559, 2530	1883347, 2370	1888952, 1100
1878593, 1048	1883348, 2351	1889045, 2639
1878783, 2314	1883349, 2197	1889061, 2640
1878953, 1056	1883350, 2270	1889062, 2639
1878954, 1056	1883351, 2238	1890393, 2642
1878988, 1055	1883352, 2287	1890557, 1099
1879606, 1045	1883395, 2395	1890643, 1099
1879637, 1876	1883396, 2407	1890832, 1099
1879742, 1639	1883412, 2361	1891146, 2639
1880052, 1050	1883423, 2108	1891520, 1100
1880067, 1057	1883424, 2372	1892489, 1099
1880420, 1044	1884035, 2640	1892657, 1100
1880464, 1993	1884255, 2393	1968048, 1740
1880465, 2017	1884289, 2105	



## INDEX OF NAMES

Prepared by Lydia Englander

In the alphabetical index of the 12,117 citations of 7,889 separate names contained herein, strict alphabetical arrangement has been aimed at, remembering that a vowel with two dots above, is indexed as having the letter "e" following, ä indexed as ae, etc. Great care has been taken to obtain wherever possible the initial of the surname. This was made necessary by the fact that of some identical names of investigators recorded herein, there are over a dozen surnames and name combinations. The separate names and number of citations under each as recorded in this index is:

A, 205 names, 302 citations thereon; B, 868 and 1527; C, 492 and 932; D, 395 and 1151; E, 119 and 318; F, 318 and 486; G, 333 and 488; H, 694 and 868; I, 187 and 691; J, 117 and 110; K, 372 and 528; L, 400 and 629; M, 529 and 637; N, 164 and 225; O, 106 and 119; P, 344 and 447; Q, 2 and 3; R, 364 and 381; S, 926 and 1211; T, 248 and 283; U, 32 and 39; V, 90 and 115; W, 412 and 497; X, 1 and 1; Y, 22 and 33; Z, 69 and 96.

- Anon., 1551, 1708, 1758, 1770, 1907,  
1942, 2143, 2291, 2301, 2332, 2400,  
2624.  
*Aaronson, H.*, see *F. Olsen*.  
Abbey Syndicate, Ltd., and D.  
Nanji, 1179.  
Abbott, W., 434.  
Abel, C., 1822.  
Aberle, C., 735.  
Abitz, W., O. Gerngross and K.  
Herrmann, 1125.  
Abrams, A., and W. Chilson, 842.  
*Aceta, Ges.*, see *A. Friederich*.  
Aceta, G. m. b. H., 169, 215, 255,  
256, 591, 909, 921, 1072, 1343,  
1465, 1547, 2083, 2084, 2086, 2097,  
2098, 2111, 2114, 2119, 2140, 2308,  
2384, 2438.  
Acetate Products Corp., 600, 2567.  
Acetex Safety Glass, Ltd., 735.  
Acetex Safety Glass, Ltd., and W.  
Johnston, 842, 2588, 2589.  
Acetol Products, Inc., 1969, 2567.  
Ach, F., 2046.  
Ach, L., 1857, 1886, 1894, 2663.  
Achard, J., and C. Gonon, 382.  
Ackerman, F., 256.  
Ackerman, F., and C. Apotheker,  
256, 2250.  
*Ackerman, W.*, see *E. Heuser*.  
*Actien*, see *Aktien*.  
Actualite Illustree Soc. Anon., 592,  
2558.  
Adams, D., 1079, 2596.  
*Adams, E.*, see *I. Langmuir*.  
Adams, E., and H. Haller, 2509.

- Adams, H., *see* *British Celanese, Ltd.*  
 Adams, H., *see* *British Dyestuffs Corp., Ltd.*  
 Adams, L., *see* R. Kienle.  
 Adams, R., *see* C. Tomecko.  
 Adams, R., and J. Hyde, 1992.  
 Adams, R., and V. Voorhees, 1255.  
 Adamson, G., 1279.  
 Adams-Randall, C., 2600.  
 Addy, A., *see* *British Celanese, Ltd.*  
 Addy, C., J. Billing and H. Halkyard, 2142.  
 Adkins, W., *see* T. Emery.  
 Adler, J., 1882.  
 Adler, R., 429, 434, 1142.  
 Adom, M., 2600.  
 Adrian, A., 1275.  
 Aehnelt, W., *see* B. Rassow.  
 Aeolian Co., 2600.  
 Ahrlé, H., *see* F. Golby.  
 Aiken, E., *see* J. Aylsworth.  
 Airship Guarantee Co., Ltd., and C. Burney, 592, 2483.  
 Aische, M., *see* A. Hall.  
 Aksipetrov, A., and G. Rioumin, 1179.  
 Aktiebolaget Separator, 1155.  
 Akt. Ges. für Anilin-Fabrikation, *see* M. Hagedorn.  
 Aktien Gesellschaft für Anilin Fabrikation, 363, 401, 410, 423, 430, 432, 435, 490, 1254, 1257, 1261, 1267, 1465, 1684, 1697, 1733, 1808, 1819, 1822, 1923, 2237, 2280, 2285, 2424.  
 Aktien-Ges. vorm. Haaf & Co., 435.  
 A. G. für Spiritus-Beleuchtung und Heizung, 486.  
 Aktiengesellschaft f. Stickstoff-duenger, 735, 843.  
 Akt. Ges. für Wasserdichte Stoffe "Filmos" Oftringen, 592, 2435.  
 Aktschourin, J., 1182.  
 Alabouvette, C., 843, 2317.  
 Aladin, 1052.  
 Alary-Ruelle, F., and A. Choisy, 2611, 2618.  
 Albert, W., 593.  
 Albertson, J., *see* P. Evans.  
 Albrecht, E., *see* C. Harries.  
 Alchemic Gold Co., 1927.  
 Alden, O., 593.  
 Alder, R., 1140.  
 Aldrich, T., 1959.  
 Alexander, A., *see* R. Willows.  
 Alexander, A., *see* F. Wood.  
 Alexander, A., 119.  
 Alexander, W., 435.  
 Alexander, W., and J. Clegg, 490, 1882.  
 Algemeene Kunstzijde Unie N. V., 843, 1037, 1073, 1076, 2190, 2216.  
 Algemeene Kunstzijle Unie, N. V., and J. Stockly, 922.  
 Allaire, H., *see* L. Desvaux.  
 Allan, J., *see* *British Celanese, Ltd.*  
 Allegre, Mondon & Co., 490.  
 Allemann, O., *see* O. Schmidt.  
 Allen, A., 2362.  
 Allen, H., 593, 2586.  
 Alles, J., 2053.  
 Allgeier, R., W. Peterson and E. Fred, 735.  
 Allgemeine Elektrizitats, 1093, 2053, 2438.  
 Allison, J., and R. Hixon, 1131.  
 Allman, P., H. Morris and L. Marlor, 593, 2543.  
 Alloy Welding Process, Ltd., 843.  
 Alloy Welding Processes, Ltd., and E. Clarke, 736.  
 Alloy Welding Processes, Ltd., and E. Jones, 736, 2438.  
 Allport, D., 2608.  
 Alox Chemical Corp., 1968.  
 Alterhoff, W., 593, 2202.  
 Althausse, M., 333.  
 Altwegg, H., and A. Eichler, 2188.  
 Altwegg, J., 922, 1057.  
 Altwegg, J., and C. Maillard, 1362, 1461.  
 Altwegg, J., and Soc. Chim. des Usines du Rhone, 593.  
 Altwegg, J., and C. Willard, 102.  
 Aluminum Walzwerke Singen, Lauber, Neher Co., 922.  
 Ambler, J., 1499, 1500.  
 Amend, O., 1820, 1920.  
 American British Chemical Supplies Inc., 2567.  
 American Cellulose Co., 2567.  
 Amer. Cell. & Chem. Mfg. Co., 102, 491, 1578, 1856, 1923, 2344, 2567.  
 American Cyanamid Co., 736, 1936, 2401.  
 American Druggists Syndicate, 1833.  
 American Graphophone Co., 2600, 2602.  
 Amseder, F., 2540.  
 Anaslasi, C., *see* L. Guglielmelli.  
 Anc. Maison Jolly-Belin, *see* Etabl. Petitdidier.

- Ancienne Maison Jolly-Belin*, see *Soc. Anon. Des Etablissements Petitdidier*.  
 Andersen, 2663.  
*Andersen, A.*, see *C. Malm*.  
*Andersen, B.*, see *R. Ball*.  
*Andersen, B.*, see *J. Walsh*.  
*Andersen, C.*, see *K. Freudenberg*.  
 Anderson, 2663.  
 Anderson, C., 736.  
 Anderson, C., W. Charlton, W. Harworth & V. Nicholson, 1500.  
 Anderson, D., 1177.  
*Anderson, E.*, see *J. Baddiley*.  
 Anderson, J., 922, 2219.  
 Andes, 435, 2400.  
 Andreau, R., 491.  
 Andress, K., 1117, 1121, 2663.  
 Andress, R., 2663.  
 Angelasto, A., 1147.  
*Angelbrecht, C.*, see *I. Petersen*.  
*Angla, M.*, see *H. Gault*.  
 Anglo Pencil Co., Ltd., and M. Smith, 843, 2540.  
 Anhydrot-Leder-Werke Akt.-Ges. and K. Haring, 431.  
 Anief, P., 102, 1551.  
 Anshuetz, R., 663, 1979.  
 Anschütz, R., and F. Schönfeld, 1948.  
*Antoine, J.*, see *V. Pauthonier*.  
*Ant-Wuorinen, O.*, see *W. Haworth*.  
*Apex (British) Artificial Silk, Ltd.*, see *H. Bleasdale*.  
*Apex (British) Artificial Silk Ltd.*, see *L. Levy*.  
 Apgar, F., 1262.  
*Apotheker, C.*, see *F. Ackermann*.  
 Applegate, F., 2600.  
 Araki, T., and M. Kusagawa, 844.  
 Araki, T., and T. Nagamote, 215, 256, 1589, 2486.  
 Arbez-Carme, L., 1808.  
 Archer, G., 2600.  
 Arent, A., 435, 491, 1055, 1561, 2059.  
 Aront, A., and R. Kuever, 2059.  
*Arentz, F.*, see *A. Backhaus*.  
 Arentz, F., 593, 1951.  
 Arledter, H., 2607.  
 Armbruster, F., 2600.  
 Armenault, R., J. Malet and Fabriques de Produits de Chimie Organique de Laire, 1165.  
 Armstrong, E., 42.  
*Arndt, F.*, see *K. Auwers*.  
*Arnold, H.*, see *J. Houben*.  
 Arnot, R., 844.  
 Aron, H., 1751.  
 Aron, P., 594, 1824.  
*Aronowsky, A.*, see *H. Pringsheim*.  
 Arosio, M., 435, 436, 491, 492, 2158, 2438.  
 Arsem, W., 594, 1156.  
 Artem'ev, N., 844.  
*Arvin, J.*, see *W. Carothers*.  
 Arzt, H., 2324, 2475.  
 Asahina, Y., and N. Kutani, 1164.  
*Asami, K.*, see *G. Kita*.  
 Ascherl, A., and W. Gruber, 300, 301, 1352, 1359, 1450, 1452.  
*Ashby, J.*, see *British Celanese, Ltd.*  
 Ashi Rayon Co., 1247.  
 Assadas, S., 2059.  
*Asser, E.*, see *G. Ruth, Akt. Ges.*  
 Associated Knit Underwear Mfrs. of America, 653.  
 Astbury, W., and T. Marwick, 1125.  
*Aston, F.*, see *P. Frankland*.  
 Aston, F., 436.  
 Attack, F., 844, 2588.  
 Ateliers de Construction Grosselin & Dehaitre, 1240.  
 Atkins, S., 2555.  
 Atkinson, C., 2137.  
 Atlas Ago Chemische Fabrik, 2472.  
*Atsuki, K.*, see *Y. Tanaka*.  
 Atsuki, K., 594, 1135, 1145, 2020, 2026.  
 Atsuki, K., and N. Ishii, 923.  
 Atsuki, K., and K. Shimoyama, 594, 1196, 1734.  
 Atsuki, K., K. Shimoyama and H. Matsumoto, 1195.  
 Atsuki, K., and R. Shinoda, 2481.  
 Atsuki, K., R. Shinoda and Y. Tanaka, 595.  
 Atsuki, K., and H. Sobue, 1196, 1214.  
 Audemars, G., 1772, 2068.  
 Auerbacher, L., 436.  
*Auerhahn, A.*, see *I. G. Farbenindustrie, A.-G.*  
*Aurednicek, A.*, see *I. G. Farbenindustrie, A.-G.*  
 Aurednicek, A., E. Keiner and R. Krech, 2212.  
 Aurenque, J., 2128.  
 Austerweil, G., 436, 1941, 2390.  
 Auwers, K., and F. Arndt, 1264.  
 Avery, C., and H. Kress, 1030, 1098, 2438.  
 Avery, J., W. Haworth and E. Hirst, 1497, 1506.



- Avery, J., and E. Hirst, 1501.  
 Avram, M., 596.  
 Awcock, G., *see* *British Celanese, Ltd.*  
 Awcock, G., *see* C. Ryley.  
 Axtell, F., *see* J. Stevens.  
 Ayers, B., 1078, 2596.  
 Aylsworth, J., *see* T. Edison.  
 Aylsworth, J., 364, 384, 390, 391, 403, 430, 436, 437, 1893, 1941, 2600, 2604, 2606.  
 Aylsworth, J., and E. Aiken, 492.
- Baar, A., *see* J. Pollak.  
 Baboin, A., & Co., 437.  
 Bachmann, E., *see* M. Ledru.  
 Bachmann, W., *see* R. Zsigmondy.  
 Bachrach, D., 1909, 2458.  
 Bacigalupi, A., 383, 1817, 2600.  
 Backer, H., 2031.  
 Backhaus, A., *see* U. S. Industrial Alcohol Co.  
 Backhaus, A., 48, 492, 1270, 1929, 1931.  
 Backhaus, A., and F. Arentz, 492.  
 Bacon, R., *see* N. Hart.  
 Baddiley, J., *see* *British Dyestuffs Corp., Ltd.*  
 Baddiley, J., 2273.  
 Badilley, J., and British Dyestuffs Corp., Ltd., 844, 845.  
 Baddiley, J., and J. Hill, 2294.  
 Baddiley, J., J. Hill and E. Anderson, 493, 2271.  
 Badilley, J., A. Shepherdson, H. Swann, J. Hill and L. Lawrie, 2222.  
 Baddiley, J., and W. Tatum, 2271.  
 Baddiley, J., W. Tatum and British Dyestuffs Corp., Ltd., 493, 2271.  
 Baden, D., *see* *Brit. Cellulose & Chem. Mfg. Co., Ltd.*  
 Bader, W., *see* *British Celanese, Ltd.*  
 Bader, W., *see* *Brit. Cellulose & Chem. Mfg. Co., Ltd.*  
 Bader, W., *see* H. Dreyfus.  
 Bader, W., *see* *Levinstein, Ltd.*  
 Bader, W., 596, 1261, 1284.  
 Bader, W., and W. Dickie, 1836.  
 Bader, W., and D. Nightingale, 493.  
 Badger, E., & Sons Co., 845, 923, 1045.  
 Badger, E., & Sons, and G. Lunt, 1047.
- Badische Anilin & Soda Fabrik, *see* C. Claessen.  
 Badische Anilin & Soda Fabrik, *see* F. Guenther.  
 Badische Anilin & Soda Fabrik, *see* O. Schmidt.  
 Badische Anilin & Soda Fabrik, 345, 402, 408, 427, 429, 437, 494, 495, 587, 596, 1427, 1981, 1982, 1985, 1986, 1988, 1989, 2015, 2018, 2021, 2030, 2042, 2276, 2294, 2306, 2558.  
 Badische Anilin & Soda-Fabr. and R. Metzger, 596.  
 Badische Anilin & Soda-Fabr. and R. Wietzel, 597.  
 Baekeland, L., 1801.  
 Baer, W., 1971.  
 Baeyer, A., 1887.  
 Baguley, N., *see* F. Shedden.  
 Baillo, C., 2180.  
 Bain, J., 1132, 1782.  
 Bain, J., and G. Chute, 1132.  
 Bain, J., and G. Kay, 1132.  
 Bain, R., E. Nixon and Lamson Paragon Supply Co., Ltd., 2489, 2499.  
 Bainbridge, E., 1770.  
 Bakelite Corp., *see* C. Nash.  
 Bakelite Corp., 257, 736, 816, 846, 923, 1573, 1944, 1947, 2404, 2559, 2637.  
 Bakelite Corp., and H. Bender, 923.  
 Bakelite G.m.b.H., 2109.  
 Baker, B., *see* *Excelloid Co., Ltd.*  
 Baker, F., *see* F. Nathan.  
 Baker, F., 1355, 1358, 1774, 1917.  
 Baker, G., R. Edgar and K. Cranor, 736.  
 Baker, H., 1254.  
 Baker, H., & Bros., *see* T. Brewster.  
 Baker, J., 1153.  
 Baker, S., and W. Haworth, 1500.  
 Baker, T., *see* J. Goldsmith.  
 Baker, T., *see* *Spicers, Ltd.*  
 Baker, T., 845, 924, 1096, 1099, 2128, 2532, 2534.  
 Baker Perkins, Ltd., and R. Webb, 845.  
 Balch, F., 597, 2541.  
 Baldsiefen, W., and T. Rogers, 2014.  
 Baldwin, J., 1969, 1971.  
 Balke, P., and G. Leysieffer, 48 2024, 2579, 2605.  
 Ball, R., 257.

- Ball, R., and B. Andersen, 1024, 1099.  
 Ball, R., and H. Hibbert, 1531.  
 Balland & Co., 424, 438.  
 Ballard, H., 2600.  
 Balle, G., *see* K. Daimler.  
 Balle, G., *see* O. Ernst.  
 Balle, G., *see* Farbiv.  
 Balle, G., *see* R. Hofmann.  
 Balle, G., *see* I. G. Farbenindustrie.  
 Balle, G., *see* H. Persiel.  
 Balle, G., *see* K. Sponsel.  
 Balle, G., *see* A. Steindorff.  
 Balle, G., 240, 1440, 1452, 1486, 1591.  
 Balle, G., H. Lange and K. Ost, 1600.  
 Balle, G., H. Lange, K. Ost and I. G. Farbenindustrie, Akt.-Ges., 257, 1651.  
 Balle, G., and K. Ost, 1592, 2624.  
 Balle, G., and K. Sponsel, 243, 1983, 2420, 2421, 2575.  
 Ballonhüllen-Ges., 438, 2482.  
 Balls, W., and H. Hancock, 1219.  
 Bally, O., and P. Grossmann, 846, 2251.  
 Bally, O., P. Grossmann and F. Felix, 2248.  
 Balser, W., 358.  
 Balston, R., and J. Briggs, 343, 1858.  
 Baly, E. C., *see* Pollopos, Ltd.  
 Baly, E. J., *see* Pollopos, Ltd.  
 Bancarel, C., 597, 2604.  
 Bandli, M., *see* Howards & Sons, Ltd.  
 Bandli, M., 736, 1905, 2437.  
 Banigan, T., *see* H. Bassett.  
 Banigan, T., 2120.  
 Banister, A., 924.  
 Bannister, W., *see* C. Simms.  
 Bannister, W., *see* L. Swallen.  
 Baranetsky, J., 2458.  
 Barbelenet, S., *see* M. Denis.  
 Barbet, E., 2128.  
 Barbezat, A., 2128.  
 Barbier, H., 343.  
 Barbieri, J., *see* J. Duclaux.  
 Barbieri de Introini, I., 846.  
 Barbisan, L., 1246.  
 Bardin, A., 438, 495, 2586.  
 Barendfeld, L., 1810.  
 Barfuss, J., 438.  
 Barham, N., *see* E. Mack.  
 Barker, C., 1905.  
 Barker, F., *see* W. Lawrence.  
 Barker, S., *see* Lustrafil, Ltd.  
 Barleben, K., 597.  
 Barmer Maschinenfabrik A.-G., 2123, 2125.  
 Barnard, C., *see* British Alizarine Co., Ltd.  
 Barnard, C., and British Alizarine Co., Ltd., 597, 2253, 2279.  
 Barnard, T., *see* R. Revell.  
 Barnes, E., *see* Spicers, Ltd.  
 Barnett, C., *see* M. Hopkins.  
 Barnett, W., 79, 495, 1695, 1720, 1734.  
 Barnevald Kooij, G. van, 1246.  
 Barr, A., *see* Cellon, Ltd.  
 Barr, A., and H. Lazell, 438, 2483.  
 Barr, G., and L. Bircumshaw, 496, 1355, 1782.  
 Barr, G., and E. Wilson, 449.  
 Barratt, T., *see* R. Willows.  
 Barratt, T., and J. Lewis, 1187, 1202.  
 Barrett, F., *see* Bleachers' Assoc., Ltd.  
 Barrett, F., *see* W. Kershaw.  
 Barrett, F., *see* C. Parker.  
 Barrett, M., 2400.  
 Barrett, S., 2596.  
 Barsha, J., *see* H. Hibbert.  
 Barstow, E., and J. Griswold, 2128.  
 Bartel, H., 2444.  
 Bartelstone, L., 846, 924, 2585.  
 Barth, K., 2128.  
 Barthelemy, H., *see* Ruth-Aldo Co., Inc.  
 Barthelemy, H., *see* R. Thenoz.  
 Barthelemy, H., 133, 170, 257, 598, 846, 847, 924, 1057, 1410, 1411, 1783, 2083, 2085, 2086, 2097, 2116, 2370, 2640.  
 Barthelemy, H., and Ruth-Aldo Co., 597, 598.  
 Bartlett, G., 925.  
 Bartram, T., *see* C. Hand.  
 Bartunek, R., *see* E. Heuser.  
 Bary, C., 438, 1464.  
 Baskerville, C., 1274.  
 Basler & Co., J., 2047.  
 Basler Chem. Fabrik, 252.  
 Bassett, H., 496, 1150, 1233, 1243, 2035, 2056.  
 Bassett, H., and H. Banigan, 496, 598, 735.  
 Bassett, H., and S. Sadtler, 2127.  
 Bataille, E., 2128.  
 Bate, G., 2663.

- Bate, S., see British Dyestuffs Corp., Ltd.*  
*Bate, S., 2663.*  
*Baudot, J., 2128.*  
*Bauer, E., see F. Kehrman.*  
*Bauer, R., see M. Hagedorn.*  
*Baugham, P., see E. Beckett.*  
*Baum, E., see Consortium fur Elektrochem. Ind. G.m.b.H.*  
*Baum, E., and M. Mugdam, 496.*  
*Baumann, E., 1494, 1732.*  
*Baumann, F., see I. G. Farbenindustrie, A.-G.*  
*Baumann, P., and R. Stadler, 1036.*  
*Baumeister, B., 438.*  
*Baumert, A., see I. G. Farbenindustrie.*  
*Baumert, A., and R. Fischer, 2184.*  
*Baumgarten, P., 919.*  
*Baur, K., 1875.*  
*Bawtree, A., 2600.*  
*Baybutt, R., 50.*  
*Baybutt, R., and E. Farrow, 599.*  
*Bayer, 364.*  
*Bayer & Co., F., 347, 348, 349, 350, 1024, 1380, 1856, 1979, 2196, 2480.*  
*Bayer, F., & Co., see also Farbenfabriken.*  
*Bayer, O., see G. Kalischer.*  
*Bayerl, A., see F. Becker.*  
*Bayerl, A., see H. Heimann.*  
*Bayerl, V., and K. Roos, 1125.*  
*Baykogarn, A. G., and A. Zimmerli, 2555.*  
*Beadle, C., and H. Stevens, 1200, 1220.*  
*Beadle, G., 416, 1810.*  
*Beal, C., see L. Eberlin.*  
*Beal, C., see Kodak, Ltd.*  
*Beal, C., see E. Sheppard.*  
*Beal, C., and L. Eberlin, 102, 1377.*  
*Beals, L., 2002.*  
*Bean, P., 599.*  
*Beard, J., 737.*  
*Beatty and McLang, 655.*  
*Beatty, W., 439, 1810, 2023, 2105, 2501, 2559, 2608.*  
*Beatty, W., and P. Cattaert, 416.*  
*Beausejour, R., 599, 2391.*  
*Beavis, J., 134, 1372.*  
*Becher, A., 2608.*  
*Bechhold, H., 2459.*  
*Beck, A., see L. Clement.*  
*Beck, A., and J. Nicholson & Sons, Ltd., 439, 2485.*  
*Beck, F., see M. Bergmann.*  
*Beck, F., see R. Herzog.*  
*Beck, F., see Naamlooze Vennootschap Nederlandsche Kunstzijdefabriek.*  
*Beck, F., 496, 1797.*  
*Beck, K., 1024, 2196.*  
*Becker, B., see L. Schmid.*  
*Becker, B., 2662, 2663.*  
*Becker, E., 496.*  
*Becker, F., see I. G. Farbenind., A.-G.*  
*Becker, F., 666, 1696.*  
*Becker, F., H. Heimann and A. Bayerl, 847.*  
*Becker, R., see L. Schmid.*  
*Becker, R., 2662, 2663.*  
*Becker, T., see C. Ebert.*  
*Becker, T., see A. Eichengruen.*  
*Becker, T., see I. G. Farbenind., A.-G.*  
*Becker, T., 399, 1822.*  
*Becker, W., see I. G. Farbenindustrie, A.-G.*  
*Becker, W., see M. Luther.*  
*Becker, W., see E. Richter.*  
*Becker, W., 2432.*  
*Becker, W., and L. Oliver, 737.*  
*Becker, W., L. Oliver, H. Murray and Colour Photographs (British & Foreign), Ltd., 737.*  
*Beckett, E., see Scottish Dyes, Ltd.*  
*Beckett, E., see J. Wilson.*  
*Beckett, E., P. Baugham, J. Thomas and Scottish Dyes, Ltd., 925, 2281.*  
*Beckett, E., and J. Thomas, 737, 1025, 2251.*  
*Beckett, E., J. Thomas and Scottish Dyes, Ltd., 712, 2281.*  
*Beckett, F., see J. Wilson.*  
*Beckett, J., see Scottish Dyes, Ltd.*  
*Beckmann, C., see J. Zanetti.*  
*Beckmann, E., and O. Liesche, 1176.*  
*Beckwith, F., 2473.*  
*Bedford, C., 599, 2298.*  
*Bedfors, C., see J. Bedfors.*  
*Bedfors, J. and C., and J. Kirk, 378.*  
*Beebe, M., A. Murray and H. Herlinger, 599, 2503.*  
*Beech, E., 1078.*  
*Behal, 367.*  
*Behal, A., 2046, 2047.*  
*Behal, A., and E. Choay, 252.*  
*Behal, A., P. Magnier and C. Tissier, 2047.*  
*Behin, R., 847, 2395.*

- Behrend, P., 1260, 1263, 1271, 1289, 1298.  
 Behrens, J., 1277.  
 Beilstein, F., and R. Rieth, 1276.  
 Bell, D., 2622.  
*Bellwood, R., see C. Downs.*  
 Belnisch, H., 423.  
 Beltzer, F., 395, 1618, 1619.  
*Belz, W., see K. Freudenberg.*  
 Bemberg, A. G., 48, 2087.  
 Bemberg, J. P., Aktienges., 362.  
*Benaglia, G., see Lonza Elektrizitätswerke u. Chem. Fabr.*  
 Benardini, 1414.  
*Bencowitz, I., see P. Levene.*  
*Bender, H., see Bakelite Corp.*  
 Benedetti, C., A. Vanselow and W. Vanselow, 1297.  
 Benedictus, E., 424, 2585.  
 Benjamin, A., and R. Huebner, 1141.  
*Bennet, A., see Kirklees, Ltd.*  
*Bennett, C., see C. Saunders.*  
 Bennett, J., 2195.  
 Bennett, N., H. Dodd, W. Sprent, F. Holt and Imperial Chemical Industries, Ltd., 1542.  
 Bennett, S., 1805.  
 Bennett, W., 600, 2136, 2312, 2331.  
*Benoist, S., see G. Bertrand.*  
 Benrath, P., E. Damm and O. Stephani, 374, 2018.  
 Bent, L., 496, 1954, 2397.  
 Berard, P., 2536.  
 Berend, L., 369, 376, 2018.  
 Berg, H., 439.  
*Berg, J., see J. Boeseken.*  
*Berge, P., see N. Grunstein.*  
 Bergellini, G., and C. Moncada, 1161.  
 Berger, C., 1905.  
 Berger, E., 439.  
 Bergmann and Machemer, 911.  
 Bergmann, M., 1106.  
 Bergmann, M., and F. Beck, 591.  
 Bergmann, M., and E. Knehe, 1158, 1163, 1478.  
 Bergmann, M., E. Knehe and E. von Lippmann, 600, 1157.  
 Bergmann, M., and F. Koch, 737.  
 Bergmann, M., and H. Machemer, 1114, 1129.  
 Bergstrom, F., W. Gilkey and P. Lung, 2007.  
 Berl, E., 48, 378, 379, 738, 1047, 1211, 1358, 1582, 1600, 2086.  
 Berl, E., and J. Bitter, 1274.  
 Berl, E., and R. Klaye, 1140, 1142.  
 Berl, E., G. Rueff and W. Wahlig, 925.  
 Berl, E., and H. Schupp, 170, 1311, 1331, 1348.  
 Berl, E., and W. Smith, 367, 594.  
 Berl, E., and H. Staudinger, 925.  
 Berl, E., and H. Umstaetter, 926.  
 Berl, E., H. Umstaetter and E. Karrer, 926.  
 Berliner, E., 2600.  
*Berliner, R., see R. Schmidt.*  
*Bernadac, C., see E. Jasset.*  
 Bernoulli, A., M. Schenk and W. Hagenbuch, 847.  
*Bernoulli, W., see H. Hoz.*  
 Bernsen, T., 600.  
*Bernstein, A., see Zellstofffabrik Waldhof.*  
 Bernstein, A., 1232.  
*Berry, A., see H. Fenton.*  
 Berry, D., 2472.  
 Bert, J., 738, 2319.  
 Bert, L., 1280, 1289.  
 Bertarelli, E., 439.  
 Berthelot, M., 2, 309, 310, 311, 1251, 1252, 1257, 1277.  
 Berthelot, M., and S. de Luca, 309.  
 Berthelot, M., and L. Pean de St. Gilles, 309.  
 Berthold, H., 258, 2258, 2634.  
 Berthold, H., and P. Rabe, 1025, 2222.  
*Berthon, P., see Soc. de Stearinerie et Savonnerie de Lyon.*  
 Berthon, P., 153, 1494, 1716.  
 Berthoud, A., 1274.  
 Bertrand, G., and S. Benoist, 1112.  
 Bertsch, H., 2151, 2218.  
 Berzelius, J., 1161.  
 Bethe, A., 2612.  
 Bethisy, L., 654.  
*Betteridge, F., see I. Frankenburg, Ltd.*  
*Betts, H., see D. Jones.*  
*Beudet, M., see J. Koetschet.*  
 Beudet, M., and Soc. Chim. des Usines du Rhone, 1922.  
 Beutel & Grunsteidl, 848.  
*Bevan, see Cross.*  
*Bevan, E., see C. Cross.*  
 Beythien, A., 497.  
 Biber, W., 377.  
*Bicking, G., see M. Shaw.*  
*Bidaud, F., see Soc. des Usines Chim. Rhone-Poulenc.*  
 Bidaud, F., 1057, 1253.  
 Biedermann, W., 1619.

- Biehler, A. von, see Farbenfabriken.*  
 Biehler, A. von, 1902.  
*Biehler, F., see Farbw. vorm. Meister, Lucius & Brüning.*  
 Biehler, F., 1992.  
 Biehler, F., and Farbwerke vorm. Meister, Lucius & Brüning, 1976.  
 Bielecki, J., and J. Ciechanowski, 497.  
 Bielefeldt, M., 2005.  
 Bier, H., 439.  
 Bierry, H., and J. Giaja, 2458.  
*Bigelow, N., see B. Helferich.*  
 Bigelow, S., 2459.  
 Bigelow, S., and A. Gemberling, 2459.  
 Bilham, P., see J. Coleman.  
*Billing, J., see C. Addy.*  
 Billing, J., 926.  
 Billing, J., and British Celanese, Ltd., 748.  
 Billing, W., and J. Tinsley, 848.  
*Billings, H., see A. Little, Inc.*  
 Bilsky, J., 2497.  
 Biltz, K., 497.  
*Bincer, H., see B. Wendt.*  
*Bindschedler, E., see Tubize Artificial Silk Co.*  
 Bindschedler, E., 2126, 2127.  
 Bindschedler, E., and G. Juer, 2084.  
 Binz, A., and G. Schroeter, 3.  
*Biot, M., see A. Seyewetz.*  
*Bircumshaw, L., see G. Barr.*  
 Bird, F., 2128.  
 Birtwell, C., D. Clibbens and A. Geake, 1197.  
 Bishop, A., and E. Bishop, 2606.  
*Bishop, E., see A. Bishop.*  
*Bitter, J., see E. Berl.*  
*Bitterfeld, K., see H. Heimann.*  
*Bitterfeld, K., see E. Richter.*  
 Bittner, H., and C. Villedieu, 2005, 2489.  
*Black, A., see H. Doughty.*  
 Black, H., 2539.  
 Blackall, A., 600, 2568.  
 Blackler, M., 1261.  
 Blackmore, H., 1890.  
*Blackshaw, H., see British Dyestuffs Corp., Ltd.*  
*Blackshaw, H., see L. Lawrie.*  
 Blackshaw, H., 600, 2233.  
 Blagden, J., 1888.  
 Blaise, E., 1267.  
*Blake, G., see C. Dreyfus.*  
 Blake, G., 2144.  
 Blancato, M., 2059.  
 Blanco, G., 1198.  
*Blanke, E., see W. Voss.*  
 Blanksma, J., 212, 395, 1620.  
*Blaser, B., see W. Traube.*  
 Blatt, G., 439.  
*Bleacher's Assoc., Ltd., see W. Kershaw.*  
*Bleacher's Assoc., Ltd., see C. Parker.*  
 Bleacher's Assoc., Ltd., 2345.  
 Bleacher's Assoc., Ltd., W. Kershaw, F. Barrett and R. Gaunt, 600, 738, 2199, 2200, 2345, 2355.  
*Bleasdale, H., see O. Silberrad.*  
 Bleasdale, H., and Apex (British) Artificial Silk, Ltd., 1025.  
 Bleiberger, C., 1961.  
 Bleibler, E., 1025, 2529, 2530.  
 Blenio, G., 497, 2059, 2482.  
 Blochmann, R., 440, 600, 2501.  
 Bloch-Pimentel, E., 467, 1182, 1619.  
 Blodgett, C., 1170.  
 Blodgett, C., and H. Hanson, 1050, 1170.  
 Bloom, J., 497, 2210.  
 Bluecher, 2568.  
 Blücher, H., and E. Krause, 2606.  
 Blueh, O., 1355.  
 Blumel Bros., Ltd., 2567.  
*Blume, W., see C. Dreyfus.*  
 Blumer, E., 1492, 1618.  
 Blumer, L., 338, 1025, 2053.  
*Boake, A., see T. Durrans.*  
*Boake, A., see N. Sidgwick.*  
*Boaler, W., see British Celanese, Ltd.*  
 Bock, J., 431, 2616, 2618.  
*Bodensee, K., see K. Wiesler.*  
 Bodenstein, J., 1266.  
*Bodner, A., see G. Heberlein.*  
 Bodmer, A., 2362.  
 Bodroux, F., 1254, 1291.  
*Boedecker, E., see E. Heuser.*  
 Boehm, Akt.-Ges., H. T., 171, 258, 738, 2207, 2451.  
 Boehmer, N., 1973.  
 Boehringer, C. & Soehne, G. m. b. H., 258, 486, 738, 849, 926, 927, 1026, 1047, 1794, 1857, 1870, 1904, 1924, 1965, 2023.  
 Boehringer, R., and H. Wolf, 1685, 2313.  
 Boernstein, H., 1585, 1904.  
 Boernstein, H., and N. V. Nederlandsche Linoleumfabriek, 171, 215, 1579, 1585, 2598.  
 Boesch, B., 341.

- Boeseken, J., 440.  
 Boeseken, J., J. Berg and A. Kerst-  
 jens, 440, 1491.  
 Böttger, R., 2458.  
*Boettger, S., see B. Helferich.*  
*Bogatsky, V., see P. Petrenko-*  
*Kritschenko.*  
 Bogert, M., and E. Slocum, 1298.  
*Bogin, C., see B. Brown.*  
*Bogin, C., see C. Gabriel.*  
*Bogin, C., see D. Legg.*  
 Bogin, C., 1860, 1867, 1944, 1951,  
 1982.  
 Bogoyavlenski, F., 1204.  
 Bohan, F., 1883.  
 Bohme, H., A.-G., 849, 1026.  
 Bohn, R., 2240.  
 Bohne, H., 2137.  
 Boide, R., 2567.  
*Boldemann, H., see R. Norman.*  
*Boll, O., see W. Forstmann.*  
 Bollmann, H., 2126.  
*Bolz, F., see K. Freudenberg.*  
 Bombrini, Parodi & Delfino, 498.  
*Bomhard, H. von, see H. Schulbach.*  
*Bonamico, C., see J. Goldsmith.*  
*Bonamico, C., see Spicers, Ltd.*  
 Bondet, L., 2058.  
 Bongrand, J., and L. Lejeune, 258,  
 2377.  
 Bonhoeffer, O., and H. Guntrum,  
 392.  
*Bonhote, G., see G. de Montmollin.*  
 Bonnaud, J., 2053.  
 Bonner, W., 440, 1701, 1703, 1734,  
 1735, 1799, 2559.  
 Bonwitt, G., 133, 370, 440, 474,  
 498, 1802, 1910, 1943, 1981, 1998,  
 2186.  
 Book, G., and J. Eggert, 1296.  
*Boord, C., see E. Mack.*  
 Bordigone, V., and D. Maier, 440.  
 Borensztedt, A., 601, 2439.  
 Borgmeyer, C., 2044, 2045.  
 Borgmeyer, C., and L. Paget, 1930.  
*Born, S., see J. Nelson.*  
 Born, S., and J. Nelson, 441, 1159.  
 Bortree, M., 2472.  
 Borvisik Syndicate, Ltd., 2182.  
 Borzykowski, B., 389, 413, 441,  
 1069, 2128, 2187.  
 Bosland, H., F. Lapiana and Stein,  
 Hall & Co., 2140.  
 Bosnische Electricitäts A. G., 441.  
 Bosse, A., 215, 1165.  
 Bosse, A., A. Seidel and H. Sed-  
 lacek, 1026, 1074.  
*Bosshardt, H., see Elektroche-*  
*mische Werke.*  
 Botrele, G., and G. Fretard, 1909.  
 Bott, H., W. Haworth and E. Hirst,  
 1504.  
 Bott, H., E. Hirst and J. Smith,  
 1499.  
*Bottger, S., see B. Helferich.*  
 Bottler, M., 441, 455, 456.  
 Bouchaud-Praceiq, E., 414, 2128.  
 Bouchet, J., 171, 215, 1550.  
 Bouffe, G., 498, 2101.  
 Bouffort, M., 424.  
 Boulon, C., and L. Simon, 1251.  
 Bougeois, J., E. Nieuviarts and  
 C. de Clercq, 2182.  
 Bourquelot, E., and M. Bridel, 1636.  
 Bourquelot, E., H. Herissey and  
 M. Bridel, 1636.  
 Bouvier, C., G. Fouche and  
 E. Seguin, 1169.  
 Bouvier, M., 498, 2223.  
 Bouvier, M., and L. Hugoniot, 720,  
 1922.  
 Bovard, W., 1199.  
 Bowen, E., and H. Watts, 601.  
*Bower, J., see British Celanese, Ltd.*  
*Bower, J., see H. Dreyfus.*  
*Bowker, W., see H. Smith.*  
 Bowker, W., and J. Walsh, 2618.  
*Bowles, P., see Titanine, Ltd.*  
 Bowley, E., 1100.  
 Boyce, C., 849, 2435.  
 Braconnot, H., 1.  
*Bradfield, A., see K. Orton.*  
 Bradley, L., and E. McKeefe, 1246.  
 Bradley, P., 441, 498.  
 Bradley, T., 2055.  
 Bradner, D., 258, 1440, 1448, 1451,  
 1918.  
 Bradshaw, H., 738, 2508.  
 Bradshaw, H., E. Nollau and  
 R. Woodbridge, 1972.  
*Bragg, W., see W. Eccles.*  
 Bragg, W., 1116, 1120.  
*Braizer, S., see Dunlop Rubber Co.,*  
*Ltd.*  
*Branchen, L., see C. Prachel.*  
 Branchen, L., and C. Prachel, 601,  
 927, 1055.  
 Brandenberger, J., 368, 498, 2390.  
 Brandenburger, H., 738, 739, 849,  
 850, 927, 2223, 2234, 2292.  
 Brandt, C., 1139.  
 Brandt, G., 2608.  
 Brandwood, J., 2119, 2120, 2124.  
 Brass, K., and E. Steinhilber, 601.

- Brasseur, E., 2499.  
 Bratring, K., 50, 739, 1026, 2501, 2527.  
 Bratring, K., and A. Giebmanns, 739.  
 Bratring, K., and E. Roth-Schmidt, 850, 1026.  
 Brauckmeyer, R., 1086.  
 Braun, A., *see* A. Eichengruen.  
 Braun, E., *see* K. Freudenberg.  
 Braun, G., *see* G. Zemplen.  
 Braun, H., *see* H. Pringsheim.  
 Braun, O., 927.  
 Brauns, D., *see* C. Hudson.  
 Brauns, D., and H. Frush, 258, 1506.  
 Brauns, F., *see* H. Hibbert.  
 Bray, G., *see* British Thomson-Houston Co., Ltd.  
 Bray, G., *see* A. Ward.  
 Bray, M., and C. Peterson, 1178.  
 Brazier, S., *see* C. Macintosh & Co., Ltd.  
 Brechenridge, B., R. Edgar and K. Crance, 850.  
 Breda, C., 1238.  
 Breda-Visada, Ltd., and R. Jones, 2181.  
 Breda-Visada, Ltd., H. Sagar, E. Weyenbergh and R. Jones, 2187.  
 Bredmann, G., 1180.  
 Bredig, G., and S. Carter, 427.  
 Bregeat, J., 441, 1464, 1834, 2126.  
 Bregenzner, A., *see* E. Knoevenagel.  
 Bremer Baumwollwerke Ges., *see* P. Minck.  
 Breslauer, J., and C. Goudet, 2055.  
 Bresser, A., 1079, 1358, 1900.  
 Breteau, P., and H. Leroux, 587, 1868, 1888, 1983.  
 Breuer, A., 2498.  
 Breuer, E., 354.  
 Brewster, D., 2611.  
 Brewster, T., and H. Baker & Bros., 601.  
 Brevets Etrangers Lefranc & Cie, 1049.  
 Briailles, de G., 1884.  
 Brick, S., 1814.  
 Bridel, M., *see* E. Bourquelot.  
 Bridel, M., 1504.  
 Bridgett, R., *see* T. Purdie.  
 Brier, J., and G. Watkins, 2596.  
 Brier, J., G. Watkins and W. Brown, 1078.  
 Briesewitz, K., *see* F. Schleicher.  
 Briggs, C., 123.  
 Briggs, H., *see* Imperial Chem. Industries, Ltd.  
 Briggs, J., *see* R. Balston.  
 Briggs, J., *see* British Celanese, Ltd.  
 Briggs, J., *see* British Cellulose & Chem. Mfg. Co., Ltd.  
 Briggs, J., *see* C. Cross.  
 Briggs, J., *see* H. Dreyfus.  
 Briggs, J., 253, 499, 1527, 1726, 1733, 1751.  
 Briggs, J., and C. Palmer, 499, 2223.  
 Briggs, J., C. Palmer and J. Kidd, 927.  
 Briggs, J., and L. Richardson, 2310.  
 Briggs, J., and R. Roberts, 2089.  
 Briggs, J., and W. Yorke, 49.  
 Brightman, R., *see* British Dyestuffs Corp., Ltd.  
 Brightman, R., *see* Imperial Chemical Industries, Ltd.  
 Brightman, R., 928, 2259.  
 Brigl, B., 2663.  
 Brigl, P., 205, 2663.  
 Brigl, P., and H. Keppler, 1492.  
 Brigl, P., and R. Schinle, 739, 1492.  
 Brigman, F., 2382.  
 Brill, E., 2109.  
 Brislee, F., *see* British Insulated Cables, Ltd.  
 Brislee, F., 928, 2439.  
 British Acetate Silk Corp., Ltd., F. Stoyale, G. Edwards and A. Lipscomb, 259, 1409.  
 British Aeroplane Varnish Co., Ltd., and S. Groves, 441, 2483.  
 British Aeroplane Varnish Co., Ltd., and J. Ward, 441.  
 British Alizarine Co., Ltd., *see* C. Barnard.  
 British Alizarine Co., Ltd., 2252, 2278.  
 British Alizarine Co., Ltd., and C. Barnard, 601.  
 British Alizarine Co., Ltd., W. Dawson and C. Soutar, 601, 2253.  
 British Alizarine Co., Ltd., W. Dawson, C. Soutar and R. Wood, 602, 2295.  
 British Celanese, Ltd., *see* J. Billing.  
 British Celanese, Ltd., *see* C. Dreyfus.  
 British Celanese, Ltd., *see* H. Dreyfus.  
 British Celanese, Ltd., *see* G. Ellis.  
 British Celanese, Ltd., *see* R. Felgate.

*British Celanese, Ltd., see*

*S. Fulton.*

*British Celanese, Ltd., see W. Moss.*

*British Celanese, Ltd., see C. Ryley.*

*British Celanese, Ltd., see*

*W. Taylor.*

British Celanese, Ltd., 103, 104, 105, 134, 135, 136, 137, 138, 171, 172, 173, 174, 175, 176, 177, 178, 215, 259, 260, 261, 262, 263, 303, 500, 602, 603, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 850, 851, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 1073, 1075, 1076, 1080, 1095, 1240, 1349, 1363, 1365, 1406, 1433, 1464, 1535, 1563, 1568, 1570, 1571, 1574, 1577, 1582, 1587, 1600, 1675, 1698, 1699, 1808, 1811, 1877, 1882, 1895, 1896, 1899, 1943, 1968, 1980, 1987, 1994, 1999, 2017, 2023, 2024, 2041, 2053, 2054, 2078, 2079, 2089, 2091, 2093, 2102, 2104, 2105, 2111, 2121, 2129, 2130, 2143, 2144, 2146, 2148, 2150, 2160, 2161, 2163, 2164, 2171, 2179, 2187, 2188, 2189, 2191, 2192, 2194, 2195, 2196, 2199, 2201, 2203, 2206, 2207, 2216, 2220, 2231, 2237, 2238, 2248, 2293, 2307, 2308, 2309, 2311, 2316, 2317, 2320, 2322, 2323, 2324, 2327, 2329, 2335, 2336, 2338, 2342, 2345, 2346, 2347, 2348, 2352, 2353, 2358, 2359, 2360, 2365, 2370, 2374, 2375, 2376, 2377, 2378, 2379, 2382, 2393, 2394, 2395, 2398, 2405, 2407, 2449, 2464, 2506, 2518, 2519, 2543, 2545, 2554, 2561, 2567, 2569, 2570, 2586, 2588, 2589, 2591, 2592, 2594, 2595, 2596, 2597, 2598, 2625, 2630, 2631, 2633, 2644, 2645, 2662.

British Celanese, Ltd., H. Adams and A. Shepherdson, 139.

British Celanese, Ltd., C. Addy and H. Sims, 1073.

British Celanese, Ltd., J. Allan and G. Ellis, 1083.

British Celanese, Ltd., and W. Bader, 604, 851.

British Celanese, Ltd., & J. Bower, 604, 2111.

British Celanese, Ltd., J. Briggs, J. Kidd and C. Palmer, 605.

British Celanese, Ltd., J. Briggs, C. Palmer and J. Kidd, 2199.

British Celanese, Ltd., J. Briggs and R. Roberts, 216, 2090.

British Celanese, Ltd., W. Crosse

and W. Taylor, 2107, 2112.

British Celanese, Ltd., and A. Daly, 179, 752, 1374, 2020.

British Celanese, Ltd., and W. Dickie, 179, 264, 934, 1347, 2335, 2336, 2338, 2360.

British Celanese, Ltd., W. Dickie and E. Greenwood, 2407.

British Celanese, Ltd., W. Dickie and F. Hale, 933, 936, 2124, 2125, 2385.

British Celanese, Ltd., W. Dickie and H. Halkyard, 106, 2343, 2356.

British Celanese, Ltd., W. Dickie and F. Hill, 216, 2150.

British Celanese, Ltd., W. Dickie and R. Martin, 2130.

British Celanese, Ltd., W. Dickie and R. Moncrieff, 263, 852, 935, 2334, 2336, 2337, 2338.

British Celanese, Ltd., W. Dickie, T. Platts and L. Latham, 752.

British Celanese, Ltd., W. Dickie and J. Rooney, 104, 1578, 2343.

British Celanese, Ltd., W. Dickie and P. Sowter, 168, 216, 262, 263, 302, 852, 1074, 2076, 2077, 2078, 2092, 2661, 2644.

British Celanese, Ltd., and C. Dreyfus, 602, 603, 604.

British Celanese, Ltd., C. Dreyfus and C. Palmer, 602.

British Celanese, Ltd., and H. Dreyfus, 752.

British Celanese, Ltd., H. Dreyfus and W. Bader, 605, 754.

British Celanese, Ltd., H. Dreyfus, W. Dickie and R. Moncrieff, 1094.

British Celanese, Ltd., H. Dreyfus, W. Dickie and C. North, 302, 2337, 2638.

British Celanese, Ltd., H. Dreyfus, W. Dickie and P. Sowter, 263, 933, 2137, 2138, 2139.

British Celanese, Ltd., H. Dreyfus, W. Dickie and W. Taylor, 752, 2090, 2118.

British Celanese, Ltd., H. Dreyfus and G. Ellis, 137, 1584, 2154.

British Celanese, Ltd., H. Dreyfus, G. Ellis, T. Ockman and H. Olpin, 179, 752, 2286.

British Celanese, Ltd., H. Dreyfus and C. Haney, 605, 753.

British Celanese, Ltd., H. Dreyfus, E. Kinsella, J. Bower and W. Taylor, 754, 852, 931.



- British Celanese, Ltd., H. Dreyfus and R. Roberts, 217, 2371.
- British Celanese, Ltd., H. Dreyfus and W. Taylor, 217, 263, 931, 2078, 2091, 2092, 2106, 2116, 2117, 2118, 2132, 2138, 2172, 2220.
- British Celanese, Ltd., and G. Ellis, 106, 137, 143, 175, 179, 213, 217, 218, 219, 264, 265, 499, 605, 606, 607, 746, 749, 750, 798, 852, 1082, 1587, 2145, 2147, 2148, 2155, 2157, 2163, 2170, 2172, 2183, 2188, 2196, 2210, 2211, 2220, 2237, 2242, 2243, 2254, 2266, 2268, 2285, 2288, 2305, 2310, 2316, 2318, 2323, 2340, 2344, 2346, 2348, 2351, 2357, 2633, 2641.
- British Celanese, Ltd., G. Ellis and J. Allan, 1083, 2638.
- British Celanese, Ltd., G. Ellis and T. Ellison, 180, 2307.
- British Celanese, Ltd., G. Ellis and W. Goldthorpe, 143, 607.
- British Celanese, Ltd., G. Ellis and E. Greenhalgh, 102, 607, 2323.
- British Celanese, Ltd., G. Ellis and W. Kirk, 1082.
- British Celanese, Ltd., G. Ellis and R. Mann, 607, 2344.
- British Celanese, Ltd., G. Ellis and W. Miller, 219, 264, 852, 853, 2304, 2331, 2344, 2347.
- British Celanese, Ltd., G. Ellis, T. Ockman and H. Olpin, 264, 2269.
- British Celanese, Ltd., G. Ellis and H. Olpin, 137, 138, 173, 180, 303, 750, 937, 1083, 2149, 2168, 2200, 2209, 2268, 2284.
- British Celanese, Ltd., G. Ellis, H. Olpin and E. Kirk, 138, 180, 181, 750, 751, 853, 936, 2208, 2209, 2218, 2268, 2281, 2286, 2452.
- British Celanese, Ltd., G. Ellis, H. Olpin and W. Miller, 608, 2296.
- British Celanese, Ltd., G. Ellis, H. Olpin and D. Mosby, 181, 751, 937, 2254, 2268.
- British Celanese, Ltd., G. Ellis, H. Olpin and R. Storey, 264, 2244.
- British Celanese, Ltd., G. Ellis, H. Olpin and E. Walker, 181, 608, 752, 2268, 2352.
- British Celanese, Ltd., G. Ellis, F. Stevenson and C. Croft, 499.
- British Celanese, Ltd., G. Ellis and R. Storey, 2185, 2631.
- British Celanese, Ltd., and R. Felgate, 219.
- British Celanese, Ltd., and S. Fulton, 934.
- British Celanese, Ltd., S. Fulton and G. Tyce, 934.
- British Celanese, Ltd., and S. Green, 753.
- British Celanese, Ltd., S. Green and T. Dee, 1048.
- British Celanese, Ltd., S. Green and R. Handley, 853.
- British Celanese, Ltd., S. Green and R. Widdowson, 753.
- British Celanese, Ltd., E. Kinsella, J. Bower, J. Briggs and R. Roberts, 932, 2112.
- British Celanese, Ltd., E. Kinsella, J. Bower and W. Taylor, 138, 2111.
- British Celanese, Ltd., E. Kinsella, J. Bower, W. Taylor and H. Dreyfus, 2088.
- British Celanese, Ltd., G. Langdon, A. Flower and S. Fulton, 937, 2170, 2353.
- British Celanese, Ltd., and H. Martin, 604.
- British Celanese, Ltd., A. Mellor and R. Mann, 2130.
- British Celanese, Ltd., A. Mellor and D. McLellan, 267, 2305.
- British Celanese, Ltd., and B. Miller, 853.
- British Celanese, Ltd., D. Mosby, H. Olpin and G. Ellis, 181, 754, 2253, 2268.
- W. Moss, 1066, 2395.
- British Celanese, Ltd., and British Celanese, Ltd., W. Moss and B. White, 266, 1573.
- British Celanese, Ltd., and H. Olpin, 139, 220, 2254, 2269, 2294.
- British Celanese, Ltd., and H. Oxley, 754, 928.
- British Celanese, Ltd., H. Oxley and L. Fallows, 928.
- British Celanese, Ltd., C. Palmer and S. Fulton, 608, 2172, 2193, 2199.
- British Celanese, Ltd., C. Palmer and W. Whitehead, 2107.
- British Celanese, Ltd., and R. Parkinson, 266.
- British Celanese, Ltd., R. Parkinson and F. Reeson, 2109.
- British Celanese, Ltd., R. Payne and R. Roberts, 181, 182, 2195.

- British Celanese, Ltd., H. Platt and C. Dreyfus, 603.
- British Celanese, Ltd., R. Riley, W. Lowe and W. Taylor, 2378.
- British Celanese, Ltd., R. Riley, R. Parkinson and H. Sims, 266, 2174.
- British Celanese, Ltd., and G. Rivat, 609.
- British Celanese, Ltd., G. Rivat and E. Cadgene, 104, 809, 2155.
- British Celanese, Ltd., and R. Roberts, 934.
- British Celanese, Ltd., R. Roberts and L. Gregory, 266, 2076.
- British Celanese, Ltd., R. Roberts, E. Johnson and L. Gregory, 2631.
- British Celanese, Ltd., R. Roberts and S. Welch, 2136, 2218.
- British Celanese, Ltd., and J. Rooney, 754, 2588.
- British Celanese, Ltd., C. Ryley and G. Awcock, 106, 107.
- British Celanese, Ltd., and G. Schneider, 603.
- British Celanese, Ltd., G. Schneider and C. Dreyfus, 602.
- British Celanese, Ltd., and W. Skertchly, 609.
- British Celanese, Ltd., E. Stanley, H. Olpin and G. Ellis, 2209.
- British Celanese, Ltd., and W. Taylor, 220, 221, 754, 854, 932, 1063, 1074, 1097, 2076, 2092, 2108, 2112, 2118, 2121, 2122, 2134, 2183, 2190, 2311, 2363, 2372, 2373, 2376, 2378, 2632.
- British Celanese, Ltd., W. Taylor and C. Dreyfus, 854, 2193.
- British Celanese, Ltd., W. Taylor and H. Dreyfus, 2112.
- British Celanese, Ltd., W. Taylor, E. Parkinson and R. Roberts, 2093.
- British Celanese, Ltd., W. Taylor and R. Roberts, 221, 222, 2191.
- British Celanese, Ltd., W. Taylor, R. Roberts and L. Gregory, 222, 2176.
- British Celanese, Ltd., E. Thomas, W. Groombridge and H. Oxley, 1046.
- British Celanese, Ltd., and A. Tidmus, 2107.
- British Celanese, Ltd., A. Tidmus, F. Reeson and R. Riley, 2108, 2374.
- British Celanese, Ltd., and J. Wainwright, 222, 2322.
- British Celanese, Ltd., S. Welch, A. Guyler, J. Ashby and W. Boaler, 2359.
- British Celanese, Ltd., S. Welch and R. Roberts, 2210, 2218.
- British Celanese, Ltd., W. Whitehead and C. Dreyfus, 266, 1572.
- British Celanese, Ltd., R. Widdowson and S. Green, 754.
- British Celanese, Ltd., and W. Wirz, 754.
- British Celanese, Ltd., T. Woodman and W. Dickie, 107, 1583, 2157, 2484.
- British Cellulose Co., 588.
- British Cellulose & Chem. Mfg. Co., see F. Cumbers.*
- British Cellulose & Chemical Manufacturing Co., 442, 500, 502, 1863, 1891, 2306.
- British Cellulose & Chem. Mfg. Co., Ltd., D. Baden and D. Nightingale, 500.
- British Cellulose & Chem. Mfg. Co., Ltd., and W. Bader, 501, 1284.
- British Cellulose & Chem. Mfg. Co., Ltd., W. Bader and W. Dickie, 502.
- British Cellulose & Chem. Mfg. Co., J. Briggs and C. Palmer, 500.
- British Cellulose & Chem. Mfg. Co., Ltd., J. Briggs and L. Richardson, 500.
- British Cellulose & Chem. Mfg. Co. and C. Cross, 442.
- British Cellulose & Chem. Mfg. Co., Ltd., H. Dreyfus, J. Briggs and H. Clotworthy, 500.
- British Cellulose & Chem. Mfg. Co., Ltd., and G. Ellis, 502, 750.
- British Cellulose & Chem. Mfg. Co., Ltd., and H. Mallock, 500.
- British Cellulose & Chem. Mfg. Co., Ltd., C. Palmer and W. Dickie, 501.
- British Cellulose & Chem. Mfg. Co., C. Palmer and W. Whitehead, 2111.
- British Cellulose & Chem. Mfg. Co., Ltd., and L. Richardson, 501.
- British Cellulose & Chemical Mfr. Co., Ltd., and H. Roy, 49, 500.
- British Cellulose & Chemical Mfr. Co., Ltd., C. Ryley, C. Palmer and S. Welch, 49, 2122.
- British Cellulose & Chem. Mfg. Co.,

- Ltd., F. Small and W. Dickie, 502.
- British Cellulose Syndicate and V. Mertz, 1832.
- British & Continental Camphor Co., 1935.
- British Cyanides, Ltd., and E. Rossiter, 2054, 2596.
- British Dyestuffs Corp., Ltd., see J. Baddiley.*
- British Dyestuffs Corp., Ltd., see G. Frank.*
- British Dyestuffs Corp., Ltd., see A. Green.*
- British Dyestuffs Corp., see L. Lawrie.*
- British Dyestuffs Corp., Ltd., 617, 2257, 2291, 2319.
- British Dyestuffs Corp., Ltd., H. Adams and A. Shepherdson, 2273.
- British Dyestuffs Corp., Ltd., J. Baddiley and H. Browning, 609, 2244.
- British Dyestuffs Corp., Ltd., J. Baddiley and J. Hill, 502, 609, 610, 2257.
- British Dyestuffs Corp., Ltd., J. Baddiley, J. Hill and A. Shepherdson, 610, 2282.
- British Dyestuffs Corp., J. Baddiley and A. Shepherdson, 493, 2271.
- British Dyestuffs Corp., J. Baddiley, A. Shepherdson, H. Swann, J. Hill and L. Lawrie, 502, 2213, 2271.
- British Dyestuffs Corp., J. Baddiley and W. Tatum, 493, 2257, 2271, 2282.
- British Dyestuffs Corp., J. Baddiley and W. Wyndham, 503.
- British Dyestuffs Corp., Ltd., R. Brightman and P. Chorley, 610.
- British Dyestuffs Corp., Ltd., and G. Frank, 610.
- British Dyestuffs Corp., Ltd., and A. Hailwood, 1238.
- British Dyestuff Corp., Ltd., C. Hollins and E. Chapman, 1179.
- British Dyestuffs Corp., Ltd., R. Horsfall, L. Lawrie, J. Henderson and J. Hill, 611.
- British Dyestuffs Corp., L. Lawrie, H. Blackshaw, 503, 611, 2155.
- British Dyestuffs Corp., Ltd., and H. Mudford, 611, 2311.
- British Dyestuffs Corp., Ltd., W. Perkin and S. Bate, 611, 2273.
- British Dyestuffs Corp., Ltd., W. Perkin and C. Hollins, 612, 2224, 2232, 2257, 2258.
- British Dyestuffs Corp., Ltd., K. Saunders and H. Wignall, 612.
- British Dyestuffs Corp., Ltd., A. Shepherdson and A. Davidson, 612, 2273.
- British Dyestuffs Corp., Ltd., A. Shepherdson, W. Tatum and F. Lodge, 613.
- British Dyestuffs Corp., Ltd., and L. Smith, 613.
- British Emaillite Co. (The), see Leduc, Heitz & Co.*
- British Emaillite Co., Ltd., and J. Goldsmith, 442, 2483.
- British Enka Artificial Silk Co., 613.
- British Industrial Solvents, Ltd., see K. Wiesler.*
- British Industrial Solvents, Ltd., 939.
- British Insulated Cables, Ltd., and F. Brislee, 854.
- British Metallising Co., see A. Warren.*
- British Safety Glass Co., see D. Polden.*
- British Safety Glass Co., 2586.
- British Thomson-Houston Co., Ltd., 341, 503, 1921, 1937.
- British Thomson-Houston Co., Ltd., A. Ward and G. Bray, 740, 2396.
- British Thomson-Houston Co., Ltd., H. Warren and A. Ward, 1973, 2053.
- British United Shoe Machinery Co., Ltd., W. Lund and L. Mellerio, 613.
- British Xylonite Co., see J. Goldsmith.*
- British Xylonite Co., Ltd., 2567.
- Britton, E., 1896.
- Britton, H., 613, 2481.
- Brobst, D., see E. Wood.*
- Brobst, D., 939, 2438.
- Bronnert, E., 386, 387, 388, 442, 503, 1687, 1891, 1893, 1901, 1911, 2003, 2130.
- Bronnert, E., and T. Schlumberger, 1893.
- Bronnert, E., and Vereinigte Glanzstoff Fabriken A.-G., 386.
- Bronstein, J., 2057.
- Brooks, B., see B. Eldred.*
- Brooks, B., 503, 504, 1844.

- Brown, A., 2400.  
 Brown, B., and C. Bogin, 613, 1906,  
 1911, 1940, 1943, 1974, 1999, 2396,  
 2400.  
 Brown, C., 755, 2501.  
 Brown, E., 2608.  
 Brown, H., and G. Morris, 1732.  
 Brown, J., *see* Courtaulds, Ltd.  
 Brown, J., and J. Mullinnix, 504.  
 Brown, S., 2600.  
 Brown, W., *see* J. Brier.  
 Brown, W., 504, 2596, 2636.  
 Browning, H., *see* British Dyestuffs  
 Corp., Ltd.  
 Browning, J., *see* British Dyestuffs  
 Corp.  
 Brownlow, R., 182, 1366.  
 Bruch, E., *see* K. Freudenberg.  
 Bruckhaus, W., 1619, 2131.  
 Bruckner, Z., *see* G. Zemplen.  
 Brueckner, H., 828, 1720.  
 Brueckner, W., 2474.  
 Bruehl, J., 1886.  
 Brüning, J., & Soehne, A.-G., 613,  
 614, 2597.  
 Brunius, E., *see* H. v. Euler.  
 Brunjes, A., *see* J. Olsen.  
 Brunner, A., *see* W. Weltzien.  
 Brunntraeger, F., *see*  
 G. Kraenzlein.  
 Burns, H., *see* E. Schnabel.  
 Bruson, H., 303, 939, 1939, 1940,  
 1953.  
 Bryce, J., *see* A. Zimmer.  
 Bryon, M., 614.  
 Bub, L., 2055.  
 Buc, H., *see* C. Jones  
 Buc, H., 1820, 1870, 1882, 1916.  
 Buchanan, G., 1936.  
 Buchanan, G., and J. Osborne, 614.  
 Bucherer, H., 2131.  
 Buchheim, R., *see* P. Kraiss.  
 Buchholz, H., 614, 2559.  
 Buchler, C., *see* M. Gomborg.  
 Buchstab, B., 2059.  
 Buckley, J., 2643.  
 Budowski, I., 2171.  
 Buechner, E., and P. Samwel, 855,  
 1053, 1566.  
 Buel, H., 139, 1669.  
 Buford, J., *see* E. Worden.  
 Bulir, J., 755.  
 Bull, W., 2596.  
 Bulmer, J., 614, 755, 1409.  
 Bumann, I., *see* K. Freudenberg.  
 Bumcke, G., *see* R. Wolfenstein.  
 Bumcke, G., and R. Wolfenstein,  
 87, 247, 366, 1139.  
 Bume, F., 365.  
 Bunbury, H., *see* Imperial Chemical  
 Industries, Ltd.  
 Bungartz, P., 755.  
 Bunsen, R., 1251.  
 Bureau of Standards, 1253.  
 Burgemeister, K., 266, 1572, 2117,  
 2401.  
 Burgeni, A., *see* R. Herzog.  
 Burgeni, A., and O. Ktatky, 1204.  
 Burgess, Ledward & Co., Ltd., and  
 W. Harrison, 504, 2280.  
 Burgess Laboratories, Inc., C. F.,  
 2627.  
 Burghart, L., 838, 915.  
 Burke, C., *see* C. Henning.  
 Burke, C., 107, 222, 1374, 1562,  
 1871, 1893.  
 Burke, C., and F. Hann, 202, 1568,  
 2413.  
 Burke, C., and R. Kramer, 1945,  
 1946.  
 Burke, C., and W. Lawson, 1810.  
 Burke, D., *see* P. Schidrowitz.  
 Burke, D., 1944, 1946.  
 Burlin, A., S. Leicester and  
 L. Holman, 614, 2538.  
 Burney, C., *see* Airship Guarantee  
 Co., Ltd.  
 Burns, H., and J. Wood, 755, 2245.  
 Burns, R., 1027.  
 Burrell, G., C. Voress and  
 V. Canter, 2127, 2128.  
 Burt, G., *see* C. Krieger.  
 Burt Co., 2600.  
 Burwell, A., 1800.  
 Busch, H., *see* E. Knoevenagel.  
 Buschka, K., *see* E. Sarauw.  
 Buschler, C., *see* W. Kuwert.  
 Bushong, F., 1271, 1289, 1298.  
 Buston, H., and S. Schryver, 1620.  
 Butler, G., *see* H. Dunncliff.  
 Butler & Co., Ltd., W., and Robin-  
 son Bros., Ltd., 1084.  
 Butterworth, E., *see* F. Wood.  
 Buyten, J., & Sohne, 2499.  
 Buzagh, A. v., 1222.  
 Bye, M., *see* L. Carlson.  
 Bye, M., and L. Carlson, 505.  
 Bygden, A., 1254.  
 Byk, Dr. H., *see* Chemische Werke.  
 Byk-Guldenwerke Chem. Fabrik  
 A. G., 442, 1941.  
 Byron, M., 1782.

- Cable, D., see S. Mahood.*  
 Cachon, C., 615, 2559.  
 Cade, A., 1288.  
*Cadgene, S., see British Celanese, Ltd.*  
*Cadgene, E., see C. Dreyfus.*  
*Cadgene, E., see G. Rivat.*  
 Cadgene, E., 2145.  
 Cadgene, E., and G. Rivat, 615, 2145.  
 Cadoret, E., 2618.  
 Cahn, N., 2541.  
 Caille, A., 505, 615, 939, 1680.  
 Calcott, W., 1720.  
 Calcott, W., F. English and O. Wilbur, 616.  
 Calico Printers' Assoc., Ltd., and L. Lantz, 616.  
 Calico Printers' Assoc., Ltd., L. Lantz and C. Keyworth, 616.  
 Calico Printers' Assoc., Ltd., and F. Roberts, 505, 2315.  
 Calico Printers' Assoc., Ltd., and J. Whinfield, 616, 940, 2187, 2316.  
 Calico Printers' Assoc., Ltd., J. Whinfield and C. Levin, 616, 2340.  
 California Explosive Co., 1908.  
 Calladine, J., 855, 1027, 2308.  
*Callan, J., see E. Thomson.*  
 Callan, T., 1270.  
 Callenberg, E., 2045, 2046.  
 Callsen, J., 1979.  
 Calmels, H., 1027.  
*Calvert, R., see R. Van Schaack.*  
 Calvert, R., 1874, 1920, 1943.  
*Cameron, A., see J. Irvine.*  
 Cameron, W., and C. Croft, 2193.  
*Cameron, W., see C. Dreyfus.*  
 Cameron, W., 2383.  
 Cameron, W., and F. Williams, 2383.  
 Camoin, J., and A. Passerieu, 2619.  
 Campardou, J., 1048.  
 Campardou, J., and J. Folie-Desjardins, 756.  
 Campbell, W., 1154, 2058.  
 Campen, van, 855.  
 Campion, P., 1863, 2488.  
 Canada British Syndicate, Ltd., 617.  
*Canadian Celanese, Ltd., see G. Ellis.*  
 Canadian Celanese, Ltd., 617, 756.  
*Canadian Electro Products Co., see H. Reid.*  
 Canadian Electro-Products Co., Ltd., 505, 1995.  
 Canadian Electro Products Co., Ltd., and H. Matheson, 1049.  
 Canadian Electro Products Co., Ltd., F. Skirrow and G. Morrison, 855.  
 Canadian Explosives, Ltd., 2030.  
 Canadian Industries, Ltd., 222, 855, 1805, 1893, 1905, 1906, 1933, 1972, 2546.  
 Canadian Industries, Ltd., G. Davies and W. Jenkins, 267.  
 Canadian Industries, Ltd., and F. Hahn, 940.  
 Canadian Industries, Ltd., and W. Lawson, 940, 1875.  
 Candlin, E., and S. Schryver, 1182.  
 Candlish, C., 617.  
 Cannizzaro, S., 1292.  
*Canter, V., see G. Burrell.*  
 Capelli, G., 506.  
 Capps, F., 2600.  
*Caprio, A., see Celluloid Corp.*  
*Caprio, A., see J. Walsh.*  
 Caprio, A., 2042, 2043, 2621.  
 Capstaff, J., 182, 2509.  
*Carbide & Carbon Chemicals Corp., see J. Davidson.*  
*Carbide & Carbon Chemicals Corp., see W. Webb.*  
 Carbide and Carbon Chemicals Corp., 617, 1027, 1283, 1809, 1850, 1853, 1855.  
 Carbide & Carbon Chemicals Corp. and J. Davidson, 1993.  
 Carlin, J., and N. Krass, 1047.  
*Carlson, L., see M. Bye.*  
 Carlson, L., and M. Bye, 1949.  
 Carlsson, O., and E. Thrall, 443, 506, 1358.  
 Carnegie, D., 1807, 1915.  
*Caro, W., see G. von Frank.*  
 Carothers, W., and J. Arvin, 252.  
 Carpenter, W., 2472.  
 Carr, K., 2497.  
 Carr, R., 1155.  
*Carroll, S., see L. Malone.*  
 Carroll, S., 50, 52, 53, 55, 139, 182, 183, 222, 267, 303, 506, 617, 618, 939, 1055, 1068, 1374, 1563, 1804, 1805, 1809, 1811, 1812, 1815, 1816, 1818, 1820, 1822, 1823, 1824, 1825, 1826, 1827, 1828, 1831, 1834, 1835, 1836, 1838, 1851, 1859, 1860, 1867, 1871, 1872, 1873, 1878, 1883, 1888, 1889, 1893, 1901, 1907, 1913, 1921, 1923, 1925, 1927, 1933, 1937, 1951, 1958, 1962, 1966, 1981, 1983, 1985,

- 1988, 1998, 2005, 2006, 2017, 2023,  
2034, 2504, 2509, 2510, 2511, 2662.
- Carroll, S., and J. Donohue, 67.
- Carruthers, A., and E. Hirst, 1501.
- Carruthers, R., 756, 2391.
- Carswell, T., 756, 2035.
- Carter, A., 2663.
- Carter, C., 2663.
- Carter, C., and A. Cox, 1252, 1253,  
1812.
- Carter, R., 1931.
- Carter, S., *see* G. Bredig.
- Carter, S., W. Haworth and  
R. Robinson, 1504.
- Carver, E., *see* S. Sheppard.
- Casein Co. of America, 2057.
- Cashmore, A., 1178.
- Cassal, A., and J. Rolland, 618.
- Cassella, L., & Co., 443, 618, 2288,  
2300.
- Castan, P., 618, 2283.
- Castanares, A., 1255.
- Castle, P., 2611, 2616.
- Castro, C., 618, 2439.
- Catala, G., G. Mainsbrecq and  
J. DeLannoy, 2128.
- Cathelineau, H., 2663.
- Cathelineau, H., and A. Fleury, 352,  
1856, 1858, 1859, 1861, 2020, 2048.
- Cathelineau, T., 2663.
- Catow, S., 2033.
- Cattaert, P., *see* W. Beatty.
- Caudri, J., 757, 855.
- Cavaillon, L., 2140.
- Cavanaugh, L., 443, 2159.
- Celanese Corp., *see* H. Dreyfus.
- Celanese Corp., *see* A. Eichengruen.
- Celanese Corp., *see* C. Ryley.
- Celanese Corp., 746, 940, 1430, 2108,  
2293, 2372.
- Celanese Corp. and A. Eichengruen,  
940, 966, 1027.
- Celloda Syndicate, Ltd., 1042.
- Cello Products, Inc., *see* M. Mueller.
- Cello Products, Inc., 619, 2042.
- Cellon, Ltd., and A. Barr, 443.
- Cellon, Ltd., and T. Tyrer, 2396.
- Cellon, Ltd., T. Tyrer & Co., P.  
Chambers and G. Feasey, 443,  
1986.
- Cellon, Ltd., T. Tyrer & Co., Ltd.,  
and T. Tucker, 443, 1936, 1986,  
2485.
- Cellon-Werke, *see* S. Klausner.
- Cellonwerke, 2567.
- Cellon-Werke, A. Eichengruen, 55,  
455, 506, 507, 2563, 2609.
- Cellulin Corp., 507.
- Celluloid Corp., *see* J. Walsh.
- Celluloid Corp., 183, 184, 223, 407,  
443, 757, 856, 940, 1089, 1567,  
1943, 1951, 1994, 2027, 2028, 2042,  
2395, 2479, 2502, 2504, 2526, 2529,  
2553, 2560, 2567, 2585.
- Celluloid Corp. and K. Flynn, 941.
- Celluloid Corp. and J. Walsh, 1027.
- Celluloid Corp., J. Walsh and  
A. Caprio, 941.
- Celluloid Corp., J. Walsh and  
K. Flynn, 941, 1027.
- Cellulose Acetate Silk Co., Ltd., and  
P. Chaumeton, 2114.
- Cellulose Acetate Silk Co., Ltd.,  
P. Chaumeton and G. Wakefield,  
941.
- Cellulose Acetate Silk Co., Ltd.,  
and H. Curtis, 268, 303, 2110,  
2119, 2130, 2369.
- Cellulose Acetate Silk Co., Ltd.,  
and D. Hayes, 941.
- Cellulose Utilities Corp., *see*  
J. Weidig.
- Chadwick, H., 941, 1088, 2218, 2232,  
2338, 2341.
- Challen, J., 2600.
- Chalmers, H., 431.
- Chalmers, J., and J. Earl, 856, 1129.
- Chamberlain, J., and H. Periam,  
184, 2527.
- Chamberlain, N., *see* J. Speakman.
- Chambers, E., and T. Hammond,  
1246.
- Chambers, E., T. Hammond and  
G. Jarman, 2128.
- Chambers, P., *see* Cellon, Ltd.
- Chamot, E., and H. Cole, 443.
- Champetier, G., 1205.
- Chance Bros. & Co., Ltd., 1077.
- Chandelon, T., 1358.
- Chandler, C., 2142.
- Chapman, A., 507.
- Chapman, E., *see* British Dyestuff  
Corp., Ltd.
- Chappell, J., *see* C. Milligan.
- Charch, W., and N. Craigie, 268.
- Charch, W., and K. Prindle, 139,  
268, 2412.
- Chardonnet, 2063.
- Chardonnet, H. de, 1133, 1772, 2068.
- Charles, E., *see* Soc. des Produits  
Chim. de Clamecy.
- Charles, E., 1027.
- Charlton, W., *see* C. Anderson.
- Charlton, W., W. Haworth and R.

- Herbert, 1509.  
 Charlton, W., W. Haworth and W. Hickinbottom, 1502.  
 Charlton, W., W. Haworth and S. Peat, 1113.  
 Charuel, Y., 423.  
 Chasbonneup, E., 1870.  
 Chase, W., 619, 1149, 2312.  
 Chatham, R., 107, 2340.  
 Chatillon, *see* A. Lautenberg.  
 "Chatillon" Soc. Anon. Ital per la Seta Artificiale, 1073, 2102.  
 Chatillon Societa Anon. Italiana per la Seta Artificiale and E. Orioli, 2115, 2189.  
 Chaubet, J., 1808.  
 Chaumeton, P., *see* Cellulose Acetate Silk Co., Ltd.,  
 Chaumeton, P. and V. Yarsley, 757, 856, 941, 1788, 1792.  
 Chauvet, H., 419.  
 Chavanne, G., *see* L. Simon.  
 Chavassieu, H., 108, 2082.  
 Chemical Foundation (The), 416.  
 Chemical Products Co., 420.  
 Chemical Works formerly Sandoz, *see* Chemische Fabrik Vormals Sandoz.  
 Chemische Fabrikem Akt-Ges., *see* Lonza Elektrizitatswerke. L  
 Chemische Fabrik auf Aktien, 413, 421.  
 Chemische Fabrik auf Aktien and E. Schering, 619, 620.  
 Chemische Fabrik Apotheker Weitz, G. m. b. H., 1028.  
 Chem. Fabr. Griesheim Elektron, 238, 396, 412, 444, 508, 619, 1815, 1839, 1877, 1889, 1905, 1922, 1995, 2001, 2396, 2400.  
 Chem. Fabr. Griesheim Elektron and N. Gruenstein, 444.  
 Chem. Fabrik Gruenau, Landshoff & Meyer, A. G., 444.  
 Chemische Fabrik Heidenau, 2606.  
 Chem. Fabr. von Heyden, A. G., 223, 391, 402, 403, 429, 444, 445, 474, 508, 1573, 1840, 1857, 1908, 1910, 1930, 1998, 1999, 2398, 2433.  
 Chemische Fabrik von Heyden A. G. and R. Feibelmann, 509.  
 Chemische Fabriken Joachim Wierink & Co., A.-G., 1092.  
 Chemische Fabrik Kalk, G. m. b. H., 444.  
 Chemische Fabrik Kalk and H. Oehme, 1908, 1915.  
 Chemische Fabrik Dr. v. Kereszty, Wolf & Co., 1286, 1290.  
 Chemische Fabrik Pott & Co., *see* R. Sajitz.  
 Chem. Fabr. Pott & Co., 2104.  
 Chemische Fabrik vorm. Sandoz, 619, 725, 757, 856, 857, 941, 1084, 1231, 1235, 1236, 1414, 1684, 1685, 2210, 2224, 2252, 2331.  
 Chem. Fabr. Schering, 1291.  
 Chemische Fabrik Stockhausen et Cie, 856.  
 Chem. Fabr. vorm. Weiler-ter Meer, *see* G. Racky.  
 Chem. Fabr. vorm. Weiler-ter Meer, 507, 508, 620, 1855, 1865, 1874, 1891, 1954, 2014, 2016, 2393.  
 Chemische Werke vorm. Auerges. Kommanditges, *see* J. D'Ans.  
 Chemische Werke vorm. H. Byk, 422, 445, 1943.  
 Cherbov, S., 857.  
 Chester, R., 2606.  
 Chevalet, P., *see* M. Cusin.  
 Chevalet, P., *see* Soc. Lyonnaise de Soie Artificielle.  
 Chevalet, P., 2032.  
 Chilikin, M., *see* N. Voznesenskii.  
 Chilikin, M., 1198.  
 Chilson, W., *see* A. Abrams.  
 Chirat, J., 2142.  
 Chittick, J., 620, 2308.  
 Chiverton, A. and F. M., Ltd., 941, 2505.  
 Chiverton, F., 2663.  
 Choay, E., *see* A. Behal.  
 Choisy, A., *see* F. Alvary-Ruelle.  
 Choisy, G., 941, 2312.  
 Chorley, J., and W. Ramsay, 1133.  
 Chorley, P., *see* British Dyestuffs Corp., Ltd.  
 Chowhury, J., 56, 1489, 1494, 1721.  
 Christensen, J., 509.  
 Christensen, L., 1050.  
 Christensen, L., and W. McCutchan, 1046.  
 Christiansen, A., *see* F. Early.  
 Christiansen, A., 2045.  
 Chrzescinski, O., *see* I. G. Farben-ind., A.-G.  
 Chrzescinski, O., *see* P. Nawiaskey.  
 Chute, G., *see* J. Bain.  
 Chute, H., 1913.  
 Ciechanowski, J., *see* J. Bielecki.  
 Cie. Francaise des Applications de la Cellulose, 376.  
 Cie Generale des Etablissements

- Pathe Freres Phonographe et  
 Cinematographs, 477, 2501.  
 Cie. Gen de Phono. Cinemato. et  
 Appareils de Precision, 407, 1831,  
 2601  
 Cie Paris de Couleurs d'Anilin,  
 2042.  
 Cie. Petit-Collin-Oyonnithe, 2567,  
 2568.  
 Cinelin Co., 2567.  
*Claasen, W., see R. Garke.*  
*Claasen, W., see E. Meyer.*  
 Claassen, W., 1953.  
 Claessen, A., 620.  
 Claessen, C., 139, 369, 509, 1430,  
 1697, 1800, 1815, 1922, 1928, 1932,  
 1980, 2030, 2046, 2047, 2458, 2616,  
 2619.  
 Claessen, C. and Badische Anilin &  
 Soda Fabrik, 1928.  
 Claessen, J., 1271, 1278, 1282.  
 Claesson, P., 649, 1289.  
 Claesson, P., and C. Lundvall, 1256,  
 1282.  
 Claffin, A., 1970.  
 Claisen, L., and O. Eisleb, 1291.  
*Clancy, J., see Nitrogen Corp.*  
 Clancy, J., 620, 1358, 1816, 1916.  
 Clancy, J., and Nitrogen Corp., 509.  
 Clark, 1200.  
*Clark, A., see D. Spence.*  
 Clark, A., 1182.  
*Clark, C., see E. Clayton.*  
 Clark, D., 1883.  
 Clark, G., 1120.  
*Clarke, C., see E. Clayton.*  
*Clarke, E., see Alloy Welding Pro-  
 cesses, Ltd.*  
*Clarke, H., see E. Farrow.*  
*Clarke, H., see Kodak, Ltd.*  
*Clarke, H., see C. Malm.*  
*Clarke, H., see W. Webb.*  
 Clarke, H., 39, 52, 445, 509, 621,  
 942, 1734, 1926, 1929, 1935, 1948,  
 1958, 1963, 1968, 1976, 2001, 2027,  
 2503, 2563.  
 Clarke, H., and H. Gillespie, 1053.  
 Clarke, H., and W. Hartman, 509.  
 Clarke, H., and C. Malm, 140, 621,  
 622, 623, 624, 758, 759, 942, 943,  
 1028, 1044, 1064, 1699, 1728, 1729,  
 1737, 1740.  
 Clarke, H., C. Malm and R. Stinch-  
 field, 140, 759.  
 Clarke, H., and D. Othmer, 760,  
 806, 943.  
 Clarke, H., and C. Waring, 760.  
 Clarke, T., 2472.  
 Classen, A., 1406, 1618.  
 Claussen, M., 2600.  
 Clavel, R., 105, 108, 184, 223, 510,  
 511, 512, 622, 624, 760, 943, 1891,  
 2146, 2149, 2150, 2156, 2180, 2200,  
 2223, 2236, 2242, 2259, 2270, 2282,  
 2299, 2312, 2316, 2317, 2331, 2363,  
 2462.  
 Clavel, R., and T. Stanisiz, 512.  
 Clay, F., 2600.  
 Clay, N., 512.  
 Clayton Aniline Co., Ltd., 513, 2306.  
 Clayton, E., 512, 857, 943, 1989.  
 Clayton, E., and C. Clark, 943,  
 1793, 1839, 1907, 1948, 1967, 1989.  
*Clayton, H., see J. Garner.*  
*Clayton, R., see Manchester Oxide  
 Co.*  
*Clegg, J., see W. Alexander.*  
 Clemencon, C., V. Clemencon and  
 S. Schmit, 1094.  
*Clemencon, V., see C. Clemencon.*  
 Clement, 2501.  
 Clement, E., 1909.  
*Clement, L., see Courtaulds, Ltd.*  
 Clement, L., 513, 624, 761, 1065,  
 1833, 1834, 2535.  
 Clement, L., and C. Riviere, 53, 184,  
 268, 405, 429, 445, 446, 513, 514,  
 624, 943, 1342, 1352, 1359, 1411,  
 1517, 1554, 1589, 1599, 1817, 1836,  
 1887, 1930, 2030, 2035, 2086, 2103,  
 2195, 2400, 2408, 2476, 2477, 2480,  
 2482, 2501, 2618, 2645.  
 Clement, L., C. Riviere and A.  
 Beck, 1565.  
 Clement, L., C. Riviere and Cour-  
 taulds, Ltd., 514.  
 Clerc, J., 1149.  
*Clercq, de C., see J. Bourgeois.*  
*Clewell, J., see Du Pont Viscoid  
 Co.*  
 Clewell, J., 944, 2330, 2475.  
*Clibbens, D., see C. Birtwell.*  
 Clibbens, D., A. Geake and P.  
 Ridge, 1197.  
 Clibbens, D., and B. Ridge, 1143.  
 Clifford, P., 1143.  
 Clifford, P., and R. Fargher, 1143.  
 Clifton, W., and B. Oaksford, 2600.  
 Clinchant, G., 2600.  
 Closmann, E., 514, 2434.  
 Closmann, E., and L. Flatow, 624.  
*Clotworthy, H., see British Cellu-  
 lose & Chem. Mfg. Co., Ltd.*  
 Clotworthy, H., 944.



- Clough, W., and C. Johns, 1834, 1916, 1917.  
 Clouth, C., 1943.  
 Clouth, F., 446, 1805, 2560.  
 Clouth, F., Rheinische Gummi-waarenfabrik m. b. H., 514.  
 Coahran, J., 1045.  
 Coblentz, W., R. Stair and C. Schoffstall, 625.  
 Cochenhausen, v., 1137.  
 Cochrane, J., 514, 515, 2482.  
 Coffin, C., *see* H. Mork.  
 Coggeshall, G., and T. Rector, 2127.  
 Cohen, J., H. Dawson and P. Crossland, 1293.  
 Cohen, R., 944.  
 Cohn, B., 2608.  
 Cohn, F., 1133.  
 Cohn, H., *see* G. von Frank.  
 Cole, H., *see* E. Chamot.  
 Colefax, M., 858, 2588.  
 Coleman, J., and P. Bilham, 515.  
 Coles, H., 1496.  
 Colin, H., 1156.  
 Collard, A., 2128.  
 Collardon, L., 1703, 1819, 2032, 2058.  
 Colle, A., *see* J. Colle.  
 Colle, J., and A. Colle, 625, 2554.  
 Collie, J., 1139.  
 Collie, J., and A. Reilly, 515.  
 Collins, G., 1205.  
 Collins, G., and A. Williams, 1198.  
 Collischonn, F., and F. Ruppert, 419, 446.  
 Collongy, L., 446, 2391.  
 Collum, H., *see* H. Peters.  
 Colombano, A., 1264.  
 Colour Photographs Ltd., *see* W. Becker.  
 Colour Photographs, Ltd., *see* H. Murray.  
 Colour Photographs (Brit. & Foreign), Ltd., *see* H. Murray.  
 Colour Photographs (British and Foreign), Ltd., 1028.  
 Coltof, W., H. Waterman and I. Wolf, 944, 1028, 2307.  
 Columbia Graphophone Co., Ltd., 515.  
 Columbia Graphophone Co., Ltd., W. Forse, F. Jones and G. Walters, 515, 2031.  
 Commercial Products Co., 369, 376.  
 Commercial Research Co., 446.  
 Commercial Solvents Corp., *see* L. Swallen.  
 Commercial Solvents Corp., 858, 1974.  
 Compagnie de Bethune, 1279.  
 Compagnie d'Exploitation des Procédés de Photographie en Couleurs L. Dufay, *see* Versicolor Dufay.  
 Compagnie d'Exploitation des Procédés de Photographie en Couleurs L. Dufay, 761, 839, 2533.  
 Compagnie Française du Celluloid, 391, 2015, 2018, 2025, 2059, 2600, 2616, 2618.  
 Compagnie Française d'Exploitation Des Procédés Plinatus, 184, 303, 1968, 2464.  
 Compagnie Française pour l'Exploitation des Procédés Thomson-Houston, 859, 1872, 1905, 1970, 2606.  
 Compagnie Générale d'Electricité, 404.  
 Compagnie Générale des Etablissements Pathe Freres, 429.  
 Comp. Gen. des Industries Textiles, *see* E. Duhamel.  
 Compagnie Générale Phonographie Cinématographique Appareils de Precision, 1858, 1959, 2600.  
 Compagnie Internationale des Industries Chimiques "Interchimic," 1814, 2396.  
 Compagnie Nationale de Matières Colorantes et Manufactures de Produits Chimiques du Nord, Reunies établissements Kuhlmann, 761, 2258, 2281.  
 Compagnie des Produits Chimiques d'Alais et de la Camargue, 446, 515.  
 Compagnie Scientifil, 761, 2124.  
 Comptoir des Textiles Artificiels, 2117.  
 Compton, J., 1283.  
 Conant, J., 1294.  
 Conant, J., and W. Kirner, 1298.  
 Conick, W. de, and A. Raynaud, 1491.  
 Conrad, M., 1931.  
 Consortium für Elektrochem., Ind. G. m. b. H., *see* H. Deutsch.  
 Consortium fuer Elektrochemische Industrie, 429, 447, 516, 625, 626, 761, 762, 1046, 1066, 1816, 1823, 1824, 1868, 1875, 1994, 2396.  
 Consortium für Elektrochem., Ind. G. m. b. H., E. Baum and M.

- Mugdan, 945.  
 Consortium fur Elektrochem, Ind.  
   g. m. b. H., H. Deutsch and W.  
   Herrmann, 945.  
 Constantin, A., and A. Constantin,  
   415.  
 Consultant, 945.  
 Continenta' Royal Phone and Phon-  
   ogram Co., 2600.  
 Convert, G., 391, 1800, 1817.  
 Convert & Cie, G., 2567.  
 Cook, R., 516.  
 Cooke, C., 2600.  
 Coolidge, A., 626, 705.  
 Coolidge, C., *see* C. Stine.  
 Coolidge, C., and H. Holt, 2409.  
 Coombs, J., 2600.  
 Cooper, J., and A. Lever, 2636.  
 Coppee, E., 626.  
 Corell, M., *see* G. Kränzlein.  
 Corey, A., and H. Gray, 1148.  
 Corner, M., *see* P. Ridge.  
 Corn Products Co., Ltd., 1155.  
 Corn Products Refining Co., 1155.  
 Cornubert, R., R. Humeau, A. Mau-  
   rel and H. Le Bihan, 1987.  
 Correns, E., *see* E. Hubert.  
 Correns, E., 1726.  
 Corson, B., J. Thomas and D.  
   Waugh, 762.  
 Corti, A., 345, 350, 1263.  
 Corti, A., and Fabrique de Produits  
   Flora Societe Anonyme, 1263.  
 Costa, D., 516.  
 Cottrell, R., 859, 1094.  
 Coudene, G., 2134.  
 Coulthard, A., *see* Imperial Chemi-  
   cal Industries, Ltd.  
 Courtaulds, Ltd., *see* L. Clement.  
 Courtaulds, Ltd., *see* W. Glover.  
 Courtaulds, Ltd., *see* J. Peddler.  
 Courtaulds, Ltd., *see* W. Stokes.  
 Courtaulds, Ltd., 109, 140, 223, 626,  
   1224, 1228, 1651, 1661, 2123.  
 Courtaulds, Ltd., and J. Brown,  
   946.  
 Courtaulds, Ltd., L. Clement and C.  
   Riviere, 516, 2085.  
 Courtaulds, Ltd., and C. Diamond,  
   269, 762, 946, 1073, 2101, 2105,  
   2163, 2182, 2186, 2190, 2645.  
 Courtaulds, Ltd., C. Diamond and  
   W. Glover, 946.  
 Courtaulds, Ltd., and H. Gardner,  
   627.  
 Courtaulds, Ltd., W. Gilles, E.  
   Templeton and E. Smith, 2137.  
 Courtaulds, Ltd., and W. Glover,  
   2636.  
 Courtaulds, Ltd., W. Glover and C.  
   Diamond, 1661.  
 Courtaulds, Ltd., W. Glover and G.  
   Heaven, 2181.  
 Courtaulds, Ltd., and H. Hegan,  
   627.  
 Courtaulds, Ltd., and F. Lewis, 108,  
   2100.  
 Courtaulds, Ltd., and J. Taylor,  
   2181.  
 Courtaulds, Ltd., C. Topham, E.  
   Hazeley and E. Morton, 2101.  
 Courtaulds, Ltd., F. Wood and E.  
   Turney, 108, 2101.  
 Courtaulds, Ltd., and R. Wormell,  
   1059.  
 Courtois, H., 859.  
 Cousens, E., 2601.  
 Coward, H., and L. Spencer, 1196,  
   1620.  
 Cox, J., 517.  
 Cox, R., 516.  
 Coxe, A., *see* C. Carter.  
 Craddock, T. and J. Thom, 1920.  
 Crafts, J., 1931.  
 Craig, J., *see* F. Turner.  
 Craig, Jr., J., 2601.  
 Craig, R., R. Robertson, J. Masson  
   and A. Drummond, 2128.  
 Craigue, N., *see* W. Charch.  
 Cram, W., 2128.  
 Cramer, E., 2458.  
 Crance, K., *see* B. Breckenridge.  
 Crane, F., 517, 1916.  
 Crane, J., 1796.  
 Cranor, K., *see* G. Baker.  
 Craven, E., *see* W. Ormandy.  
 Craver, A., 627.  
 Crepelle-Fontaine, C., 2128  
 Cretcher, L., and W. Pittenger, 517.  
 Criquebeuf, G., *see* A. Helbronner.  
 Crismer, L., 1276.  
 Crispe, A., 946, 2338.  
 Crockett, C., 1884, 1886.  
 Croft, C., *see* British Celanese Ltd.  
 Croft, C., *see* W. Cameron.  
 Croft, C., *see* G. Ellis.  
 Croft, C., *see* H. Platt.  
 Crooks, W., and C. Walton, 762,  
   2415, 2569.  
 Crosfield & Sons, J. Warrington  
   and T. Hilditch, 460.  
 Crosland, P., *see* J. Cohen.  
 Cross, C., *see* Brit. Cellulose &  
   Chem. Mfg. Co.

- Cross, C., see A. Luck.*  
*Cross, C., see C. Weber.*  
 Cross, C., 328, 442, 447, 517.  
 Cross, C., and E. Bevan, 319, 321, 322, 324, 328, 329, 349, 357, 358, 447, 1142, 1491, 1493, 1494, 1619, 1730, 1732, 1733, 2032.  
 Cross, C., E. Bevan and C. Beadle, 1732.  
 Cross, C., E. Bevan and J. Briggs, 349, 371, 1491, 1680.  
 Cross, C., E. Bevan and R. Jenks, 369, 1494, 1679, 1732.  
 Cross, C., E. Bevan and J. Traquair, 1490, 1491.  
 Cross, C., and J. Briggs, 365, 373.  
 Cross, C., and C. Dreyfus, 447, 744, 1030.  
 Cross, C., C. Fox, L. Hebbs and Triplex Safety Glass Co., Ltd., 859, 2586.  
 Cross, C., and J. Traquair, 341, 1490.  
 Cross, C., and Viscose Development Co., Ltd., 2333.  
 Cross, C., and C. Weber, 327, 328, 1700.  
*Cross, D., see W. Rintoul.*  
 Cross, W., 395.  
 Cross, W., and B. Tollens, 395.  
*Crosse, W., see British Celanese Ltd.*  
 Crossman, L., 1891.  
 Crown, H., 1152.  
*Crowther, R., see Kodak, Ltd.*  
*Crutchfield, K., see W. Moss.*  
 Cubitt, A., 627.  
*Cude, H., see R. Rose.*  
 Cumbers, F., 1698.  
 Cumbers, F., and British Cellulose & Chem. Mfg. Co., 447.  
 Cumner, J., 859.  
 Cunningham, C., 627, 1945, 1947, 2330, 2497.  
 Cuntz, L., 2128.  
 Curme, G., 447, 517, 627, 1252, 1269, 1281.  
 Curme, G., and H. Curme, 1284, 1288.  
 Curme, G., and C. Young, 1843.  
*Curme, H., see G. Curme.*  
 Curme, H., 1284.  
 Currie, J., 1886.  
 Curtis, F., 946.  
*Curtis, H., see Cellulose Acetate Silk Co., Ltd.*  
*Curtis, H., see W. Runge.*  
 Curtis, R., 762, 2166.  
 Cusin, M., and P. Chevalet, 627, 763.  
*Cuthbertson, A., see E. Percival.*  
*Czapek, E., see Wolff & Co.*  
 Czapek, E., 628.  
 Czapek, E., and R. Weingand, 1247.  
 Dabisch, H., 628.  
 Dachlauer, K., and E. Eggert, 1268, 1270.  
*Daimler, K., see A. Steindorff.*  
 Daimler, K., K. Sponsel and G. Balle, 241, 2467.  
*Dale, J., see C. Hudson.*  
 Daletzky, G., 946.  
 Daly, A., *see British Celanese Ltd.*  
 Daly, A., 1563, 2636.  
 Damiens, A., 1283.  
 Damiens, A., M. Elysee and O. Piette, 1284.  
 Damiens, A., M. de Loisy and O. Piette, 1279, 1283.  
*Damm, E., see P. Benrath.*  
 Dammann, E., 424, 447.  
 Dandridge, A., H. Drescher, J. Thomas and Scottish Dyes Ltd., 2252.  
 Daniels, W., 377.  
*Dankert, C., see K. Franz.*  
*Dankert, C., see I. G. Farbenindustrie.*  
*Danneel, H., see N. Tommasi.*  
 D'Ans, J., and Chemische Werke vorm. Auerges, Kommanditges, 1245.  
 D'Ans, J., and A. Jaeger, 1202, 1220, 1221.  
 Danzer, H., 393, 407, 1831, 1870, 1894, 1959.  
 Darling, E., 1152, 1175.  
 Darling, W., 1267, 1272.  
*Darzens, G., see Soc. Chim. des Derives du Pin.*  
*Daur, R., see W. Fuchs.*  
*Daur, R., see W. Kuester.*  
 Davey, G., 2606.  
 Davey, W., 517, 518.  
*Davidson, A., see British Dyestuffs Corp., Ltd.*  
*Davidson, A., see Imperial Chemical Industries, Ltd.*  
 Davidson, A., 304.  
 Davidson, G., 57, 1151, 1839.  
*Davidson, J. see Carbide & Carbon Chemicals Corp.*

- Davidson, J., 140, 303, 304, 617, 628, 860, 1809, 1810, 1845, 1847, 1851, 1852, 1853, 1854, 1855, 1921, 1922, 1993, 2393.
- Davidson, J. and Carbide & Carbon Chemicals Corp., 1852.
- Davidson, J., and J. Schaefer, 2629.
- Davidson, J., and J. Schaeffer, 1045.
- Davies, E., *see* A. Soly.
- Davies, G., *see* Canadian Industries, Ltd.
- Davies, G., *see* A. Zimmer.
- Davies, G., and W. Jenkins, 2414.
- Davies, G., W. Jenkins and Imperial Chemical Industries, 214, 223, 2568, 2452.
- Davies, H., 517, 628.
- Davion, L., *see* E. Douzal.
- Davis, A., 109, 224, 628, 763, 1092, 1487, 1488, 1569, 1604, 1925, 1944, 1951, 2491, 2492, 2493, 2494.
- Davis, A., and A. B. Dick Co., 2491.
- Davis, F., 2594.
- Davis, T., 2024, 2030.
- Davis, W., 628, 2380, 2586.
- Davis, W., and J. Eyre, 518.
- Dawson, E., and General Electric Co., 1978.
- Dawson, H., *see* J. Cohen.
- Dawson, W., *see* British Alizarine Co., Ltd.
- Day, H., *see* R. Harvey.
- Dean, J., *see* C. Dreyfus.
- Dean, J., 518.
- Dean, R., *see* R. Roberts.
- Debaugé, et Cie, 375, 2032, 2033.
- Decker, H., 1266.
- Decker, H., and O. Koch, 1263, 1266.
- Decorative Development, Inc., 1097.
- Dee, T., *see* British Celanese, Ltd.
- Defauchamberge, J., 109.
- Defavrie, A., 2600, 2601.
- Dehaitre, *see* Ateliers de Construction Grosselein.
- Dehn, F., 1097, 2586, 2596.
- Dehn, W., 418.
- Dehnert, F., 1200.
- Dehnert, F., and W. Koenig, 1189, 1200, 1202.
- Deile, H., 2119.
- Deiss, E., 1274.
- Deka-Textilfarben A. G., 1585.
- Delachanal, B., *see* C. Vincent.
- Delahaye, H., 1232.
- DeLannoy, J., *see* G. Catala.
- Delepine, M., 466.
- Delfino, *see* Bombrini.
- Delhotel, E., 2128.
- Delloye, R., 2596.
- Deloume, E., *see* E. Douzal.
- Delpech, J., 628, 2128.
- Delpech, J., and C. Heinrich, 2176.
- Delph, A., *see* F. Shedden.
- Demaret, O., 2530.
- Deming, H., 2032.
- Denayrouze, L., 2480.
- Denham, W., *see* J. Irvine.
- Denham, W., 33, 38, 1107, 1309.
- Denham, W., and H. Woodhouse, 22, 25, 432, 1305, 1425, 1508, 1649, 2385.
- Denis, M., 947, 2128.
- Denis, M., and S. Barbelenet, 2128.
- Deperrois, E., 628.
- Derhoef, H. van., *see* A. Sulzer.
- Deripasko, A., *see* R. Herzog.
- Deripasko, A., 947.
- Derksen, J., *see* J. Katz.
- Deroy, H., 2128.
- Desbiere, F., and G. Vescier, 2600.
- Descamps, E., 448.
- Desch, C., and A. Lapworth, 1505.
- Deschiens, M., 448, 505, 518, 628, 629, 763, 860, 1786, 1999, 2400, 2465, 2482, 2501.
- Deseniss, M., 2497.
- Desmaroux, J., 2031.
- Desparmet, E., 185, 1340, 1700, 1777, 1879.
- Destilacija Drva D. D., 629.
- Desvaux, L., 407, 1805.
- Desvaux, L., and H. Allaire, 2056.
- Detrie, J., *see* G. Vavon.
- Deutsch, H., *see* Consortium fur Elektrochem, Ind. G. m. b. H.
- Deutsch, H., *see* W. Herrmann.
- Deutsch, H., and W. Herrmann, 625, 626, 1875.
- Deutsch, H., W. Herrmann and Consortium fur Elektrochem. Ind. G. m. b. H., 1029.
- Deutsch, W., 448.
- Deutsche Acetat-Kunstseide A.-G. "Rhodiaseta," 909, 947.
- Deutsche Acetat-Kunstseiden, A.-G., 2334.
- Deutsche Celluloid Fab., *see* R. Muller.
- Deutsche Celluloid-Fabrik, *see* A. Weihe.
- Deutsche Celluloid Fabrik, 39, 269, 449, 518, 948, 1029, 1063, 1671, 1676, 1699, 1719, 1736, 2014, 2567.

- Deutsche Gasglühlicht A. G., 448, 1079, 2152.  
 Deutsche Gold- u. Silber-Scheideanstalt, 448.  
 Deutsche Gold & Silber-Scheideanstalt vorm. Rössler, 519, 1029.  
 Deutsche Gold-u Silber-Scheideanstalt vorm. Roessler and A. Gorman, 1045.  
 Deutsche Gummiwaren - Industrie Schlappig & Co., and O. Schlappig, 2472.  
 Deutsche Hydrierwerke Akt-Ges., 860, 1076, 1832, 1934, 1945, 1982, 1991, 1992, 1993, 2141, 2409, 2629.  
 Deutsche Koloniale Gerb. und Farbstoff Ges., 1426.  
 Deutsche Kunstseiden-Studienges., G. m. b. H., 1029.  
 Deutsche Sprengstoff Aktiengesellschaft, 1839.  
 Deutsche Wollenwaren Manufaktur, A. G., 185.  
 Deutsche Zellstoff - Textilwerke, Ges., 1224.  
*Deville, see Sainte-Claire.*  
 Devine, J. P., 1242.  
 DeWaele, A., 57, 629, 2488, 2491, 2495, 2496, 2497.  
*Dewar, A., see Greenwich Inlaid Linoleum Co., Ltd.*  
 De Wolf, L., 1410.  
 Diamanti, H., and C. Lambert, 2128.  
*Diamond, C., see Courtaulds, Ltd.*  
*Diamond, C., see W. Glover.*  
 Diamond, C., 2639.  
 Diamond State Fibre Co., 1264.  
*Dick, Co., A. B., see A. Davis.*  
*Dick, Co., A. B., see E. Hill.*  
 Dick, Co., A. B., 519, 2491, 2498.  
 Dick, Co., A. B., and E. Hill, 629.  
*Dick, H., see Triplex Safety Glass Co., Ltd.*  
*Dick, J., see J. Irvine.*  
 Dickert, M., 431, 449, 2157, 2159.  
*Dickie, W., see W. Bader.*  
*Dickie, W., see British Celanese, Ltd.*  
*Dickie, W., see Brit. Cellulose & Chem. Mfg. Co., Ltd.*  
*Dickie, W., see H. Dreyfus.*  
*Dickie, W., see C. Palmer.*  
*Dickie, W., see F. Small.*  
*Dickie, W., see T. Woodman.*  
 Dickie, W., 519, 2339, 2360, 2555.  
 Dickie, W., and E. Greenwood, 2041.  
 Dickie, W., and F. Hale, 2358.  
 Dickie, W., and H. Halkyard, 2639, 2640.  
 Dickie, W., and R. Martin, 2119.  
 Dickie, W., and J. Rooney, 168, 2348.  
 Dickie, W., and P. Sowter, 269.  
 Dickie, W., and P. Sowter, 1838, 2105.  
 Dickie, W., and W. Taylor, 948.  
 Dickson, W., 2471.  
 Dickson, W., and Imperial Chemical Industries, Ltd., 185.  
 Didier, T., 2618.  
*Didiere, L., see J. Folchi.*  
 Diem-Bernet, U., 630, 2504.  
 Dierichs, A., 1049.  
 Dietl, G., 1358.  
*Dingler, O., see E. Gebauer-Fuelnegg.*  
*Diserens, L., see Scheuer, Lauth & Cie.*  
 Dispersions Process, Inc., 1861.  
*Distillers Co., Ltd., see H. Langwell.*  
 Distillers Co., Ltd., H. Langwell and R. Gilmour, 1046.  
 Ditman, N., 630.  
 Ditmar, R., 519, 2465, 2543.  
 Dittmar, H., 41.  
 Ditto, Inc., 2497.  
 Ditton, T., *see C. Hermann.*  
*Diwald, J., see A. Friedrich.*  
 Dixon, W., 404, 415, 1493.  
 Djeinheim, A., 449.  
 Dmitrieva, G., and N. Yasinskii, 860.  
 Dobriner, P., 1255.  
*Dodd, H., see N. Bennett.*  
 Dodd, R., and H. Humphries, 2607.  
 Doerflinger, W., 370, 393, 449, 519, 1493, 1884, 1885, 1906, 2026, 2391.  
*Döring, E., see I. G. Farbenind. A. G.*  
*Döring, E., see H. Kessler.*  
*Dörken, K., see Lackfabrik. E. Dörken.*  
 Dörken, K., E. Hochuli and H. Herminghaus, 2535.  
*Doerr, E., see O. Leuchs.*  
*Doerr, E., see A. Weihe.*  
 Doerr, E., 109, 224, 1334, 1541, 2623.  
 Doerr, E., O. Leuchs, L. Rosenthal and I. G. Farbenindustrie, 269.  
*Doht, W., see L. Grognot.*  
*Dolter, see Societe D'Exploitation des Brevets Dolter.*  
 Donagemma, G., 1246.

- Donard, L., 2128.  
*Donnersmarck'sche*,  
*see Furst Guido*.  
 Donnersmarck, G., 333, 416, 1697,  
 1702.  
 Donohue, J., *see S. Carroll*.  
 Donohue, J., *see P. Seel*.  
 Donohue, J., 53, 55, 1443, 1444,  
 1812, 1814, 1825, 1827, 1842, 1879,  
 1882, 1906, 1909, 1927, 1928, 1932,  
 1936, 1943, 1949, 2024, 2048, 2511.  
 Donovan, *see J. Reilly*.  
 Donovan, P., *see J. Reilly*.  
 Dore, W., *see O. Sponsler*.  
 Dorn, C., *see H. Wolff*.  
 Dorr, E., *see H. Henecka*.  
 Dorr, E., *see O. Leuchs*.  
 Dort, R., *see C. Dreyfus*.  
 Dort, R., *see M. Rouilleux*.  
 Dort, R., *see E. Worden*.  
 Dort, R., 630, 763, 2234, 2293, 2307,  
 2308.  
 Douane, M., 1252.  
 Douane, M., and A. Vila, 1270.  
 Dougan, W., *see*  
*Newtex Safety Glass Co., Ltd.*  
 Douge, J., 2128.  
 Doughty, H., and A. Black, 1720.  
 Douque, A., 375.  
 Douzal, E., L. Davion and  
 E. Deloume, 2611.  
 Dover, H., 630, 2473.  
 Dover Co., Ltd., 449.  
 Dow, E., 1033.  
 Dow, H., 520, 1816, 1823, 1834.  
 Downing, G., 2601, 2602.  
 Downs, C., and R. Bellwood, 2128.  
 Dox, A., 630.  
 Dragoumis, E., 2601.  
 Drake, J., 1078, 2596.  
 Dreaper, W., 6, 520.  
 Dreaper, W., and H. Tompkins.  
 1796.  
 Dreher, C., 2498.  
 Dreiberg, A., 860.  
 Drescher, H., *see A. Dandridge*.  
 Drescher, H., J. Thomas and  
 Scottish Dyes, Ltd., 763, 2297.  
 Drew, H., and W. Haworth, 1156.  
 Drewsen, V., 1177.  
 Dreyfus, C., *see*  
*British Celanese, Ltd.*  
 Dreyfus, C., *see C. Cross*.  
 Dreyfus, C., *see G. Ellis*.  
 Dreyfus, C., *see G. Miles*.  
 Dreyfus, C., *see W. Moss*.  
 Dreyfus, C., *see H. Platt*.  
 Dreyfus, C., *see G. Rivat*.  
 Dreyfus, C., *see J. Scheidegger*.  
 Dreyfus, C., *see G. Schneider*.  
 Dreyfus, C., *see G. Seymour*.  
 Dreyfus, C., *see W. Whitehead*.  
 Dreyfus, C., 57, 58, 63, 109, 110,  
 140, 141, 175, 177, 185, 186, 219,  
 224, 270, 271, 304, 390, 396, 425,  
 449, 450, 520, 593, 630, 631, 740,  
 742, 744, 748, 763, 764, 765, 766,  
 767, 860, 861, 862, 863, 950, 951,  
 952, 953, 954, 1029, 1030, 1055,  
 1061, 1062, 1066, 1068, 1075, 1080,  
 1090, 1098, 1099, 1352, 1365, 1374,  
 1413, 1432, 1433, 1464, 1558, 1563,  
 1568, 1577, 1582, 1583, 1600, 1698,  
 1700, 1812, 1822, 1863, 1901, 2041,  
 2076, 2078, 2093, 2111, 2146, 2148,  
 2156, 2157, 2161, 2162, 2163, 2165,  
 2168, 2172, 2179, 2180, 2184, 2189,  
 2194, 2203, 2205, 2219, 2242, 2307,  
 2309, 2313, 2317, 2322, 2324, 2325,  
 2328, 2336, 2339, 2343, 2347, 2354,  
 2355, 2356, 2357, 2359, 2360, 2370,  
 2372, 2373, 2378, 2379, 2380, 2382,  
 2394, 2395, 2406, 2407, 2435, 2439,  
 2483, 2484, 2491, 2506, 2518, 2519,  
 2520, 2530, 2543, 2554, 2560, 2561,  
 2569, 2570, 2588, 2592, 2594, 2604,  
 2605, 2615, 2623, 2633, 2636, 2639,  
 2640.  
 Dreyfus, C., and G. Blake, 956.  
 Dreyfus, C., and W. Blume, 955,  
 2147, 2165, 2180, 2356, 2543.  
 Dreyfus, C., and British Celanese,  
 Ltd., 270, 2375.  
 Dreyfus, C., W. Cameron and  
 G. Schneider, 1030, 1090, 2604.  
 Dreyfus, C., and J. Dean, 2640.  
 Dreyfus, C., and R. Dort, 954.  
 Dreyfus, C., R. Dort and H. Platt,  
 105, 304, 631, 767, 951, 955, 1583,  
 2203.  
 Dreyfus, C., and G. Ellis, 768.  
 Dreyfus, C., and C. Haney, 950,  
 2639.  
 Dreyfus, C., and L. Lee, 949, 953,  
 1348.  
 Dreyfus, C., H. Martin, J. Elder  
 and L. Rogers, 1050.  
 Dreyfus, C., and K. Loughlin, 2639.  
 Dreyfus, C., H. Martin and L. Lee,  
 949.  
 Dreyfus, C., and G. Miles, 110, 948,  
 1333, 2520, 2615.  
 Dreyfus, C., G. Miles and H. Platt,  
 2180, 2362.

- Dreyfus, C., G. Miles and G. Schneider, 2639.
- Dreyfus, C., and W. Moss, 768, 953, 954, 955, 2394, 2395.
- Dreyfus, C., W. Moss and A. Kline, 2561.
- Dreyfus, C., W. Moss and G. Seymour, 955.
- Dreyfus, C., W. Moss and B. White, 955, 2394.
- Dreyfus, C., and C. Palmer, 952, 2170, 2309.
- Dreyfus, C., and H. Platt, 140, 304, 745, 767, 954, 955, 1069, 1561, 2148, 2149, 2153, 2164, 2179, 2192, 2196, 2220, 2307, 2317, 2330, 2348, 2349, 2351.
- Dreyfus, C., H. Platt, British Celanese, Ltd., and R. Parkinson, 271.
- Dreyfus, C., H. Platt, R. Parkinson and British Celanese, Ltd., 2169.
- Dreyfus, C., H. Platt and R. Dort, 743.
- Dreyfus, C., and G. Rivat, 955.
- Dreyfus, C., G. Rivat and E. Cadgene, 631.
- Dreyfus, C., and J. Scheidegger, 2060.
- Dreyfus, C., and G. Schneider, 172, 746, 766, 768, 861, 862, 948, 949, 950, 953, 954, 956, 1055, 1061, 1062, 1066, 1069, 1358, 1409, 1698, 1699, 1923, 2165, 2307, 2318, 2395, 2560, 2605, 2639.
- Dreyfus, C., and W. Whitehead, 305, 743, 948, 949, 950, 953, 954, 956, 1030, 1069, 1576, 2079, 2087, 2089, 2092, 2094, 2171, 2189, 2196, 2197, 2215, 2352, 2362, 2365, 2376, 2640, 2644.
- Dreyfus, C., W. Whitehead and H. Martin, 950.
- Dreyfus, C., W. Whitehead and H. Platt, 271, 2357.
- Dreyfus, C., and F. Williams, 954.
- Dreyfus, G., 520.
- Dreyfus, H., *see*  
*British Celanese, Ltd.*
- Dreyfus, H., *see* *British Cellulose & Chem. Mfg. Co., Ltd.*
- Dreyfus, H., *see* G. Ellis.
- Dreyfus, H., *see* W. Taylor.
- Dreyfus, H., 8, 22, 23, 38, 39, 40, 58, 59, 60, 101, 110, 111, 112, 132, 141, 168, 174, 186, 187, 197, 212, 213, 225, 226, 227, 228, 229, 271, 272, 273, 274, 275, 304, 305, 390, 396, 397, 408, 422, 426, 428, 450, 451, 452, 453, 454, 517, 520, 521, 522, 523, 632, 633, 634, 635, 636, 637, 741, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 863, 864, 865, 866, 867, 868, 933, 956, 957, 958, 959, 960, 961, 962, 995, 1029, 1030, 1031, 2032, 1033, 1045, 1048, 1049, 1050, 1058, 1062, 1066, 1068, 1069, 1074, 1075, 1076, 1080, 1083, 1090, 1094, 1100, 1169, 1244, 1264, 1285, 1289, 1353, 1364, 1372, 1382, 1396, 1398, 1399, 1406, 1408, 1409, 1410, 1414, 1422, 1430, 1431, 1432, 1434, 1535, 1555, 1561, 1567, 1570, 1574, 1575, 1576, 1577, 1581, 1582, 1584, 1586, 1587, 1590, 1591, 1592, 1594, 1595, 1596, 1598, 1599, 1604, 1608, 1610, 1681, 1688, 1693, 1694, 1698, 1699, 1700, 1724, 1725, 1736, 1739, 1741, 1745, 1746, 1748, 1749, 1750, 1753, 1797, 1799, 1801, 1812, 1816, 1819, 1822, 1827, 1832, 1836, 1838, 1859, 1860, 1862, 1863, 1866, 1871, 1872, 1873, 1882, 1885, 1888, 1892, 1902, 1909, 1926, 1928, 1930, 1934, 1943, 1959, 1961, 1984, 1986, 1988, 2003, 2027, 2028, 2029, 2038, 2039, 2040, 2041, 2046, 2076, 2079, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2103, 2111, 2112, 2118, 2121, 2131, 2133, 2134, 2135, 2137, 2142, 2143, 2146, 2147, 2149, 2151, 2152, 2153, 2154, 2155, 2156, 2160, 2162, 2165, 2172, 2175, 2176, 2178, 2179, 2180, 2183, 2184, 2187, 2188, 2190, 2191, 2193, 2195, 2196, 2197, 2205, 2209, 2210, 2211, 2214, 2215, 2217, 2221, 2222, 2224, 2225, 2226, 2227, 2238, 2253, 2254, 2255, 2267, 2270, 2284, 2285, 2286, 2287, 2295, 2301, 2305, 2307, 2309, 2318, 2322, 2329, 2335, 2337, 2338, 2339, 2341, 2346, 2347, 2349, 2351, 2353, 2354, 2359, 2364, 2365, 2371, 2372, 2373, 2374, 2375, 2376, 2379, 2395, 2398, 2502, 2518, 2519, 2520, 2529, 2560, 2569, 2570, 2592, 2626, 2630, 2631, 2632, 2633, 2634, 2638, 2639, 2644, 2646.
- Dreyfus, H., and W. Bader, 1045.
- Dreyfus, H., J. Briggs and R. Roberts, 959.
- Dreyfus, H., and British Celanese, Ltd., 2253.
- Dreyfus, H., and Celanese Corp., 774.

- Dreyfus, H., W. Dickie and F. Hale, 2112.  
 Dreyfus, H., W. Dickie and R. Moncrieff, 962, 2351.  
 Dreyfus, H., W. Dickie and P. Sowter, 959, 2076.  
 Dreyfus, H., W. Dickie and W. Taylor, 959, 2118, 2311.  
 Dreyfus, H., and G. Ellis, 961, 2154, 2349, 2363, 2644.  
 Dreyfus, H., G. Ellis and T. Ellison, 962.  
 Dreyfus, H., G. Ellis and W. Miller, 962, 2224.  
 Dreyfus, H., G. Ellis, T. Ockman and H. Olpin, 2287.  
 Dreyfus, H., G. Ellis and H. Olpin, 2640.  
 Dreyfus, H., G. Ellis, H. Olpin and E. Walker, 637.  
 Dreyfus, H., S. Green and R. Handley, 957.  
 Dreyfus, H., and C. Haney, 774, 957.  
 Dreyfus, H., and E. Kinsella, 2112.  
 Dreyfus, H., E. Kinsella, J. Bower and W. Taylor, 275, 2093, 2111.  
 Dreyfus, H., G. Langdon, A. Flower and S. Fulton, 2640.  
 Dreyfus, H., and B. Miller, 961.  
 Dreyfus, H., R. Riley, R. Parkinson and H. Sims, 2645.  
 Dreyfus, H., and R. Roberts, 2365.  
 Dreyfus, H., and L. Schneeberger, 390.  
 Dreyfus, H., and W. Taylor, 956, 959, 960, 962, 2093, 2106, 2112, 2639.  
 Dreyfus, H., and S. Welch, 2118.  
 Driersen, W., *see* S. D. Warren Co.  
 Drinberg, A., 868, 963, 1032, 1054, 1359.  
 Drinker, P., *see* E. Worden.  
 Drinker, P., 523, 2482.  
 Drossbach, O., and O. Jordan, 144, 1950.  
 Druce, G., 868, 1708, 1735.  
 Drumm, J., *see* H. Ryan.  
 Drumm, P., *see* J. Reilly.  
 Drummond, A., *see* R. Craig.  
 Drut, L., 523, 2371.  
 Dryvers, H., 453.  
 Dubac, O., 2131.  
 Dubilier Condenser Co., Ltd., *see* D. Macdonald.  
 Dubilier Condenser Co., Ltd., 187.  
 Dubilier Condenser Co., Ltd., and E. Piffner, 2440.  
 Dubois, D., 2128.  
 Dubosc, A., 422, 454, 523, 587, 638, 1136, 1688, 1689, 2032.  
 Dubosc, A., and A. Luttringer, 523, 1698.  
 Dubosc, O., 2047.  
 Dubroca, M., 1262.  
 Duclaux, J., *see* *Fabr. de Soie Artificielle de Tubize*.  
 Duclaux, J., 144, 414, 424, 454, 524, 638, 1910, 2007, 2459.  
 Duclaux, J., and J. Barbiere, 963.  
 Duclaux, J., and J. Ererra, 638.  
 Duclaux, J., and F. Hirata, 1033, 1042, 1053.  
 Duclaux, J., and A. Lanzenberg, 524.  
 Duclaux, J., and Societe d'Etude des Verres et Glaces de Surete, 2594.  
 Duddell, W., 2601.  
 Duden, P., and G. Peters, 454.  
 Duerden, H., 963.  
 Duerr, W., *see* K. Freudenberg.  
 Dusseldorfer Celluloidfabrik, 1807.  
 Duetzmann, W., 1240.  
 Dufay, L., 840, 868.  
 Duhamel, E., and Comp. Gen. des Industries Textiles, 1179.  
 Duhem, E., 638.  
 Duisberg, W., 2257.  
 Duisberg, W., and W. Hentrich, 131, 2276.  
 Duisberg, W., W. Hentrich, C. Weinand and L. Zeh, 111, 2275.  
 Duisberg, W., W. Hentrich and L. Zeh, 111, 112, 275, 2275, 2276.  
 Dujardin, A., *see* L. De Pestele.  
 Dulcken, E., *see* W. Robinson-Bindley.  
 Dulitz, A., *see* Kalle & Co., A.-G.  
 Dulitz, A., 525.  
 Dumas, 309.  
 Dumas, J., 1257.  
 Dumas, J., and E. Peligot, 1251, 1256.  
 Dumesnil, P., *see* Soc. Camar.  
 Duncan, R., 486.  
 Dunham, O., 525.  
 Dunlop Rubber Co., Ltd., S. Brazier and F. Warren, 1098.  
 Dunlop Rubber Co., Ltd., and R. Truesdale, 638.  
 Dunlop Rubber Co., Ltd., D. Twiss, A. Round and E. Murphy, 1098.



- Dunlop, S., 2190, 2195.  
*Dunncliff, H., see M. Hamid.*  
 Dunncliff, H., and G. Butler, 1280.  
 Dunton, A., 963, 2440.  
*Dunville, W., & Co., see R. Gilmour.*  
*Du Pont, see also du Pont.*  
 DuPont, F., 2128.  
 Dupont, J., 454, 525, 1863.  
 Dupont, L., 1033.  
 Du Pont Cellophane Co., Inc., 1972.  
 Du Pont Rayon Co., 868, 869, 964, 1232, 1238, 2200, 2318.  
 DuPont Viscoloid Co., 107, 188, 869, 1374, 2435, 2567, 2594, 2596.  
 Du Pont Viscoloid Co. and J. Clewell, 964.  
*Durand et Huguenin, see Soc. Anon.*  
 Durand & Huguenin A.-G., 779, 964, 2312, 2325.  
 Durchman, L., 1173.  
 Durocher, C., 2618.  
*Durr, W., see K. Freudenberg.*  
 Durrans, T., 1260, 1770.  
 Durrans, T., A. Boake and Roberts & Co., 454.  
 Dutreillis, P., 2159.  
 Duttonofer, C., 1562.  
 Dux, W., 2054.  
 Dyanese, Ltd., and S. Tootal, 964.  
 Dyes, W., 639, 779, 1238, 1430.  
 Dyke, R. v., C. Webber and C. Staud, 1063.  
*Dziengel, K., see K. Hess.*  
 Dziengel, K., C. Trogus and K. Hess, 964.  
  
*Earl, J., see J. Chalmers.*  
*Earle, E., see W. Reid.*  
 Earle, R., and L. Kyriakides, 1868.  
 Early, F., A. Christiansen, Farington Works and H. Pontifex & Sons, 2128.  
 Eastern Manufacturing Co., 1170.  
 Eastman Kodak Co., 50, 67, 97, 430, 780, 1081, 1224, 1227, 1443, 1913.  
*Eastman Kodak Co., see also Kodak, Ltd.*  
 Eastman, G., 417.  
 Eberhardt, E., 1046.  
*Eberlin, L., see C. Beal.*  
*Eberlin, L., see S. Sheppard.*  
 Eberlin, L., and C. Beal, 112, 1377.  
*Eberstadt, O., see E. Knoevenagel.*  
 Ebert, C., *see I. G. Farbenind. A.-G.*  
 Ebert, C., and T. Becker, 780, 1408.  
 Eccles, J., 965, 2201, 2339.  
 Eccles, W., and W. Bragg, 1120.  
 Echonwanek, J., 2619.  
 Eckert, W., and C. Mueller, 243, 305, 2295.  
 Eckert, W., C. Muller, W. Gmelin and I. G. Farbenind., 280, 2284.  
 Edbrock, F., 525, 1842, 1862, 2473.  
 Edeleanu, L., and G. Filiti, 2004.  
 Eder, J., 63, 322, 2450, 2541.  
*Edgar, R., see G. Baker.*  
*Edgar, R., see B. Brechenridge.*  
*Edhofer, E., see A. Klemenc.*  
 Edison, T., 2020, 2601, 2602.  
 Edison, T., and J. Aylsworth, 2601.  
 Edmonds, W., 1885.  
 Edmonds, W., and I. Krchma, 965.  
 Edwards, A., 2540.  
 Edwards, B., 2601.  
*Edwards, G., see British Acetate Silk Corp.*  
 Edwards, H., 1253.  
 Edwards, J., and I. Moore, 455.  
 Edwards, V., 525, 2588.  
 Effront, J., 1153.  
*Egan, J., see E. Knecht.*  
*Eggert, E., see K. Dachlauer.*  
*Eggert, J., see G. Book.*  
 Eggert, J., 869.  
 Egner, O., 2054.  
*Ehlers, R., see H. Harned.*  
 Ehrenberg, C., 2612.  
 Ehrenberg, C., H. Wiederhold, C. Krug, M. Holsboer, K. Fischer and Studienges, 526.  
*Ehrenfeld, D., see N. Oglesby.*  
 Ehrental, B. von, 2059.  
 Ehrental, B. von, and K. Scholz, 1180.  
 Ehrlich, J., 1084, 1092, 2489.  
*Ehrmann, P., see E. Gault.*  
 Ehrman, P., 112.  
*Eibes, B., see V. Scholz.*  
*Eichengruen, A., see Celanese Corp.*  
*Eichengruen, A., see Cellon-Werke.*  
*Eichengruen, A., see S. Klausner.*  
 Eichengruen, A., 63, 145, 188, 230, 276, 347, 347, 367, 371, 375, 384, 396, 403, 406, 417, 432, 455, 456, 478, 526, 639, 781, 869, 1804, 1805, 1812, 1841, 1842, 1843, 1858, 1864, 1866, 1910, 1944, 2023, 2025, 2071, 2099, 2100, 2397, 2399, 2440, 2482, 2524, 2529, 2563, 2570, 2601.  
 Eichengruen, A., and T. Becker, 336, 337, 1808, 2035, 2042.

- Eichengruen, A., and A. Braun, 340.  
 Eichengruen, A., and Celanese Corp., 965.  
*Eichler, A., see H. Altwegg.*  
*Eichler, T., see O. Schmidt.*  
*Eichwede, H., see I. G. Farbenind. A. G.*  
 Eichwede, H., and E. Fischer, 113, 276, 2275, 2278.  
 Eichwede, H., E. Fischer and C. Mueller, 120, 2260, 2294.  
 Eichwede, H., E. Fischer and E. Mueller, 241.  
*Eickstedt, W., see J. Ellis.*  
 Eilbertson, L., 2537.  
 Einecke, E., 966.  
 Eisemann, F., 1944, 1947.  
 Eisemann, R., 1865.  
*Eisenhut, O., see I. G. Farbenindustrie, A.-G.*  
 Eisenmann, R., 1868, 1935, 1957.  
*Eisenring, F., see E. Heuser.*  
 Eisenschitz, R., and B. Rabinowitsch, 1054.  
*Eisleb, O., see L. Claisen.*  
 Ekhard, W., 1152.  
 Ekstroem, G., 371.  
 Ekstroem, P., 371.  
 Elbee, 346.  
*Elder, J., see C. Dreyfus.*  
 Eldred, B., 526, 1840, 1844.  
 Eldred, B., and B. Brooks, 1844.  
 Electric Furnace Products Co., 454.  
 Electro Chemical Refineries, Inc., 1833.  
 Elektrochemische Werke, H. Bosshardt and D. Strauss, 526.  
 Elektro-Material, 527.  
 Elektro-Osmose A. G., 527, 1414.  
 Elgersma, J., 781.  
 Elkington, H., 1033.  
 Elling, H., 2529.  
 Elliott, W., 2601.  
 Ellis Foster Co., 401.  
 Ellis, C., 100, 132, 404, 527, 966, 1278, 1295, 1493, 1735, 1800, 1808, 1844, 1864, 1866, 1870, 1872, 1873, 1883, 1887, 1890, 1906, 1907, 1910, 1916, 1953, 1969, 1980, 1999, 2035, 2059.  
 Ellis, C., and A. Wells, 527.  
 Ellis, E., 639.  
*Ellis, G., see British Celanese, Ltd.*  
*Ellis, G., see Brit. Cellulose & Chem. Mfrg. Co., Ltd.*  
*Ellis, G., see C. Dreyfus.*  
*Ellis, G., see H. Dreyfus.*  
 Ellis, G., 113, 527, 639, 640, 780, 1068, 1587, 2147, 2153, 2154, 2172, 2210, 2211, 2212, 2242, 2243, 2266, 2269, 2270, 2282, 2285, 2293, 2318, 2319, 2329, 2638.  
 Ellis, G., and British Celanese, Ltd., 528, 2157, 2282.  
 Ellis, G., and C. Dreyfus, 2533.  
 Ellis, G., and H. Dreyfus, 2219.  
 Ellis, G., and T. Ellison, 2209.  
 Ellis, G., and W. Goldthorpe, 966, 2212.  
 Ellis, G., and E. Greenhalgh, 967, 2324.  
 Ellis, G., E. Greenhalgh, H. Dreyfus and Canadian Celanese, Ltd., 617.  
 Ellis, G., and R. Mann, 2344.  
 Ellis, G., and W. Miller, 2349.  
 Ellis, G., and H. Olpin, 1099, 2254, 2270, 2286.  
 Ellis, G., H. Olpin and E. Kirk, 1083, 2217, 2254, 2255.  
 Ellis, G., H. Olpin and E. Walker, 1033, 2244.  
 Ellis, G., F. Stevenson and C. Croft, 2285.  
 Ellis, H., 1152.  
 Ellis, J., and W. Eickstedt, 2601.  
 Ellis, R., 2609.  
*Ellison, T., see British Celanese, Ltd.*  
*Ellison, T., see H. Dreyfus.*  
*Ellison, T., see G. Ellis.*  
 Elod, E., and A. Schrod, 967.  
*Eloed, E., see W. Frey.*  
*Eloed, E., see R. Koepp & Co.*  
 Eloed, E., 640.  
*Elsner, H., see H. Schlubach.*  
*Elysee, M., see A. Demiens.*  
 Emerson, V., 2601.  
 Emery, T., and W. Adkins, 2601.  
 Emhardt, J., 528.  
 Emmerling, O., and C. Oppenheim, 1931.  
 Enco, 967, 2308.  
*Engel, O., see E. Wederkind.*  
*Engelder, C., see W. Nelson.*  
 Engelhardt, A., 528.  
*Engelhardt, R., see W. Lommel.*  
 Engelhardt, R., W. Lommel and A. Ossenbeck, 1278.  
*Engelmann, H., see K. Werner.*  
 Englander, Lydia, 2759.  
 Engelmann's, 2663.  
 Engleman's, 2663.

- English, A., and S. Stamoulis, 2193.  
*English, F.*, see *W. Calcott*.  
 Engs, W., and R. Moravec, 1262.  
*Enslow, L.*, see *W. Penniman*.  
 Ensminger, G., 1579, 2412.  
 Ensminger, H., 2055, 2057.  
 Entat, M., and E. Vulquin, 528.  
 Ephraim, F., 6.  
 Erba A.-G., 2139.  
 Erban, F., 2458.  
*Erdelyi, J.*, see *G. Zemplén*.  
 Erdman, 2663.  
 Erdmann, 2663.  
 Erdmann, E., 1134.  
 Erdmann, P., 1266.  
*Ererra, J.*, see *J. Duclaux*.  
 Erlenbach, E., 869.  
 Ermen, W., and S. Jenkins, 1193.  
*Ernecke, A.*, see *I. G. Farbenind.*  
*Ernecke, A.*, see *W. Seidel*.  
*Ernst, O.*, see *Farbw. vorm. Meister, Lucius & Brüning*.  
*Ernst, O.*, see *I. G. Farbenindustrie*.  
*Ernst, O.*, see *K. Sponsel*.  
 Ernst, O., 2408.  
 Ernst, O., and K. Sponsel, 1413, 1435, 1436.  
 Ernst, O., K. Sponsel and G. Balle, 1439, 1615.  
 Ernst, O., K. Sponsel, G. Balle and I. G. Farbenindustrie, 1399.  
 Erste Böhmische Kunstseidefabrik A.-G., 640, 1240, 2367, 2368.  
 Erste Offenbacher Gelatin-Folien u. Flitter-Fabrik Kock & Liebman, 2616.  
 Erwigs, E., and W. Koenigs, 320.  
 Escales, R., and H. Levy, 529, 1493.  
 Escamez, J., and A. Moriones, 2601.  
 Eschaliér, X., 1618, 1619, 1621.  
 Eschellmann, 2458.  
*Esselen, G.*, see *A. D. Little, Inc.*  
*Esselen, G.*, see *H. Mork*.  
 Esselen, G., 529, 1077, 1355, 1924, 2482.  
 Esselen, G., and H. Mork, 456, 529, 1701.  
 Etablissements Kuhlmann, 859, 2327.  
 Etablissements Lambiotte Freres, 1261.  
 Etablissements Mercier & Fessy, 529.  
 Etabl. Petitdidier (Anc. Maison Jolly-Belin), 641.  
 Etablissements Poulenc Freres and M. Pechiney, 1863.  
 Etabl. R. Schneider and A. Poelman, 297, 1570, 2462.  
 Etter, R., 2128.  
 Ettinger, L., and P. Friedlaender, 201, 304.  
 Etzkorn, R., 2124.  
 Eulen, A. v., 1110.  
 Euler, H. v., 1340.  
 Euler, H. v., and E. Brunius, 2055.  
 Evans, P., and J. Albertson, 1278, 1280.  
 Eveleigh, L., 2501.  
*Everest, A.*, see *J. Leitch & Co., Ltd.*  
 Evers, H., 641.  
 Ewan, T., H. Roberts and Imperial Chemical Industries, Ltd., 802.  
 Exceloid Co., 530.  
 Exceloid Co., Ltd., and B. Baker, 530, 1863.  
 Excelsior-werk Fabrik für Feinmechanik, 2603.  
*Eyre, J.*, see *W. Davis*.  
 Faber, J., 433, 456, 530.  
 Faber, O. v., and B. Tollens, 366, 1142.  
 Fabre, R., 1111.  
*Fabriques de Produits de Chimie Organique de Laire*, see *R. Arme-nault*.  
*Fabrique de Produits Flora Societe Anonyme*, see *A. Corti*.  
 Fabrique de Soie Artificielle de Tomaszow, 870, 2178.  
 Fabr. de Soie Artificielle de Tubize, 909, 2108.  
 Fabr. de Soie Artificielle de Tubize and J. Duclaux, 530.  
 Fabrik van Chemischen Producten, 427, 642.  
 Fabrik van Chemische Production, A. Ter Horst and J. Jurling, 641.  
*Färber, E.*, see *E. Hagglund*.  
*Fagerlind, O.*, see *P. Klason*.  
 Fahrlaender, M., 642, 2314.  
 Fairbourne, A., 1497.  
 Fairbrother, H., 2601.  
 Fairweather, D., J. Thomas and Scottish Dyes, Ltd., 902, 1087, 2252.  
*Fallows, L.*, see *British Celanese, Ltd.*  
 Fanjat, M., 1150.  
*Farbenfabriken vorm. F. Bayer & Co.*, see *A. Miltz*.

- Farbenfabriken vorm. F. Bayer & Co., 8, 10, 40, 63, 100, 101, 112, 113, 335, 337, 340, 344, 355, 357, 358, 363, 373, 374, 383, 389, 390, 392, 399, 403, 438, 456, 457, 530, 531, 532, 642, 643, 1278, 1380, 1447, 1489, 1492, 1494, 1567, 1570, 1572, 1604, 1797, 1805, 1815, 1819, 1822, 1827, 1839, 1842, 1866, 1872, 1908, 1909, 1930, 1942, 1953, 1964, 2018, 2028, 2032, 2048, 2058, 2081, 2082, 2087, 2222, 2224, 2228, 2235, 2236, 2237, 2259, 2279, 2362, 2363, 2458, 2501, 2529, 2567, 2568.
- Farbenfabriken vorm. F. Bayer & Co., E. Hubert, O. Leuchs and L. Lock, 642.
- Farbenfabriken and A. von Biehler, 531, 532.
- Farbenfabriken and E. Hubert, 531.
- Farbenfabriken, O. Leuchs and E. Hubert, 531.
- Farbenfabriken, P. Rabe and W. Schepss, 530.
- Farbenfabriken and L. Rosenthal, 532.
- Farbenfabriken, L. Rosenthal and W. Lenhard, 533.
- Farbenfabriken, L. Taub and L. Rosenthal, 532.
- Farber, J., 2339.
- Farberci de la Rize, see Teinturerie de la Rize.*
- Farberci de la Rize, 643, 2232.
- Farbw., O. Ernst and K. Sponsel, 534.
- Farbw. and F. Henle, 534.
- Farbw., R. Leopold and A. Michael, 534.
- Farbwerke, vorm. Meister, Lucius & Brüning, see F. Biehler.*
- Farbw. vorm. Meister, Lucius u. Brüning, see A. Schmidt.*
- Farbwerke vorm. Meister Lucius & Bruening, 65, 119, 238, 457, 534, 535, 643, 1268, 1845, 1851, 1865, 1905, 1907, 1977, 1982, 2025, 2034, 2043, 2260, 2303, 2413.
- Farbw. vorm. Meister, Lucius & Brüning and F. Biehler, 533, 534.
- Farbwerke vorm. Meister, Lucius & Bruening, R. Leopold and A. Michael, 644.
- Farbw. vorm. Meister, Lucius & Brüning, A. Steindorff and F. Biehler, 533.
- Farbw. A. Steindorff and G. Balle, 534.
- Fargher, R., see P. Clifford.*
- Fargher, R., and L. Higginbotham, 2648.
- Fargher, R., and M. Probert, 1148, 2647.
- Fargher, R., and J. Withers, 1148.
- Farine, G., see V. Kartaschoff.*
- Farine, G., see V. Kartaschov.*
- Farkas, G., 1071.
- Farma Cream Products Co., Ltd., see A. Stewart.*
- Farrington Works, see F. Early.*
- Farrow, E., see R. Baybutt.*
- Farrow, E., 67, 644, 1227, 1890, 1894, 1926, 1959, 2016, 2017, 2020.
- Farrow, E., and N. Kocker, 68.
- Farrow, E., S. Sheppard and H. Clarke, 967, 2397.
- Farwell, C., see J. McClosky.*
- Faure, C., see S. Mackie.*
- Faust, A., 645.
- Faust, O., see Zellstofffabrik Waldhof.*
- Faust, O., 1191, 1199, 1221.
- Fausten, A., 535.
- Favresse, M., and J. Peres, 645, 2435.
- Fawkes, C., 188, 1951, 1999, 2414.
- Faworski, A., 1875.
- Feasey, G., see Cellon, Ltd.*
- Febvre, J., 2128.
- Feeny, H., 791.
- Feibelmann, R., see Chemische Fabrik von Heyden A. G.*
- Feibelmann, R., 645.
- Feil, A., 535.
- Feldmann, H., 1943.
- Feldmuhle, Papier und Zellstoffwerke, 1034.
- Feldtmann, G., see E. Opfermann.*
- Feldtmann, G., see C. Schwalbe.*
- Felgate, R., see British Celanese, Ltd.*
- Felgate, R., and British Celanese, Ltd., 2355.
- Felger, E., 1091.
- Felix, F., see O. Bally.*
- Felix, F., see W. Jaeck.*
- Felix, F., 1088.
- Felix, F., and W. Jaeck, 2274.
- Felix, F., and F. Straub, 1088.
- Felix, W., 2618.
- Fellner, I., see H. Pringsheim.*
- Felten & Guillaume Carlswerk A. G., 113, 645, 2440.

- Felten & Guillaume-Lahmeyer-  
 werke Akt.-Ges., 370.  
 Fenton, H., 1498.  
 Fenton, H., and A. Berry, 535.  
 Fenton, H., and M. Gostling, 1135.  
 Ferguson, C., 645, 2429.  
 Ferguson, G., 1873.  
*Ferjancic, S., see M. Samec.*  
 Fermazin, W., 870, 967, 968, 1071,  
 2047, 2142.  
 Ferrouillet and Savigny, 1158.  
 Feurich, A., 2499.  
 Fey, G., & Co., 646.  
*Feynier, F., see R. Petitdidier.*  
 Fiberloid Corp., 2568.  
 Fichtmueller, J., 457, 1885, 2054.  
 Fick, A., 2458.  
 Field, C., 2529.  
 Field, C., and D. Haslett, 791, 2586.  
 Field, D., 2458.  
 Field, W., 1916, 1937.  
 Fierz-David, H., 791.  
 Filiti, G., *see L. Edeleanu.*  
 Finck, G., 405.  
 Fink, H., and R. Stahn, 1646, 2459.  
 Finkelstein, H., 968, 1851, 1853,  
 1987, 2399.  
*Fioroni, W., see P. Karrer.*  
*Firgau, H., see H. Schlubach.*  
*Firma Oskar Skaller, see also*  
*O. Skaller.*  
 Firma Oskar Skaller, 482.  
 Firma Phoenix, 535.  
 Firminy Societe Anonyme des  
 Acieries & Forges, 1034.  
 Fischer, A. von, 535.  
 Fischer, C., 1088.  
*Fischer, E., see H. Eichwede.*  
*Fischer, E., see I. G. Farben-*  
*industrie.*  
*Fischer, E., see E. Pfeffer.*  
*Fischer, E., see F. Risse.*  
 Fischer, E., 2, 42, 43, 114, 230, 364,  
 371, 419, 457, 535, 1163, 1510,  
 1517, 1618, 1815, 1823, 2400, 2413,  
 2614.  
 Fischer, E., and C. Mueller, 114,  
 241, 791, 2255, 2260, 2277, 2295.  
 Fischer, E., and H. Strauss, 1635.  
 Fischer, F., and B. Gotthart, 792,  
 2397.  
 Fischer, F., and W. Schneider, 6.  
 Fischer, H., 535, 1887.  
*Fischer, K., see C. Ehrenberg.*  
*Fischer, R., see A. Baumert.*  
*Fischer, R., see I. G. Farben-*  
*industrie.*  
*Fischer, R., see T. Sommerfeld.*  
 Fischer, R., 243.  
*Fischer, W., see A. Ruppert.*  
*Fischesser, A., see I. G. Farben-*  
*industrie, A.-G.*  
 Fischesser, A., 2221, 2319, 2350.  
 Fittig, R., 314, 663, 1886.  
*Fitz, A., see A. Ladenburg.*  
 Fitzner, E., and N. Zuirin, 1179.  
 Flaherty, E., 1358, 1805, 1836,  
 1915, 1918.  
 Flatau, T., and F. Schellhorn, 2601.  
 Fleisher, H., 536.  
 Flemming, H., 1822, 1842.  
 Flemming, R., 373.  
*Fletcher, C., see C. Malm.*  
*Fletcher, J., see Titanine, Ltd.*  
*Fleury, A., see H. Cathelineau.*  
*Fleury, A., see T. Cathelineau.*  
 Flint, R., 646.  
 Floersheim, W., *see H. Schlubach.*  
 Florentin, D., 417.  
*Flower, A., see British Celanese,*  
*Ltd.*  
*Flower, A., see H. Dreyfus.*  
*Flower, A., see G. Langdon.*  
 Flürscheim, B., 2031.  
 Flynn, K., *see Celluloid Corp.*  
 Flynn, K., *see J. Walsh.*  
 Flynn, K., 2529.  
 F. M., Ltd., *see A. Chiverton.*  
 F. M., Ltd., 2663.  
*Forster, M. v., see W. Wolf.*  
 Folchi, J., and L. Didiere, 646.  
*Folie-Desjardins, J., see*  
*J. Campardou.*  
 Foltran, 1034.  
 Foltzer, J., 457.  
 Fonrobert, E., 2391.  
*Foohey, W., see J. Nieuwland.*  
 Forbringer, Mae, 2665.  
 Ford, H., and R. McCarroll, 2585.  
 Forschungs & Verwertungs-  
 Genossenschaft Synex, 536.  
*Forse, W., see Columbia Grapho-*  
*phone Co., Ltd.*  
 Forse, W., F. Jones and G. Walters,  
 536, 1988, 2025.  
 Forssman, V., 536.  
 Forstmann, W., P. Menzel and  
 O. Boll, 1091.  
 Fort, 943.  
 Fortier, G. le, 2480.  
 Fortinski, B., 1290.  
*Foster, B., see Imperial Chemical*  
*Industries, Ltd.*  
*Fotiev, S., see S. Fotjew.*

- Fotjew, S., and W. Jakimanskij, 1109.  
*Fouche, G., see C. Bouvier.*  
*Foulds, R., see Tootal Broadhurst Lee Co., Ltd.*  
 Foulds, R., 646.  
 Fournaud, J., 2128.  
*Fox, C., see C. Cross.*  
 Fox, C., 1108, 1120.  
 Fox, C., and L. Hall, 145.  
*Framery, H., see L. Pacaud.*  
 Framery, H., and L. Pacaud, 2601.  
 France, J., 2608.  
 Franchimont, 1492.  
 Franchimont, A., 316, 317, 318, 319, 320, 321, 322, 330, 418, 1110, 1138.  
*Francis, G., see J. Irvine.*  
 Franek, J., 646.  
*Frank, G., see British Dyestuffs Corp., Ltd.*  
*Frank, G., see R. Herzog.*  
 Frank, G., 208, 646, 1727.  
 Frank, G., and British Dyestuffs Corp., Ltd., 646, 2273.  
 Frank, G., and K. Mienes, 2624.  
 Frank, G. von, and W. Caro, 870, 1340, 1726.  
 Frank, G. von, and H. Cohn, 968, 1702.  
 Frank, G. von, H. Krueger and W. Wolff, 969, 2104.  
 Frank, G. von, and H. Mendrzyk, 870, 1737.  
 Franke, H., 1076, 1088, 1660, 2245.  
*Franke, W., see K. Slotta.*  
 Frankel, I., 2567.  
 Frankenburg, I., 327, 328.  
 Frankenburg, I., Ltd., R. Frakenburg and F. Betteridge, 1826.  
 Frankenburg, I., and C. Weber, 1140.  
*Frankenburg, R., see I. Frankenburg, Ltd.*  
 Frankhausen, I., 338, 1491.  
 Frankland, P., and F. Aston, 1729.  
 Frankland, P., and J. McGregory, 1954.  
 Franquet, E., 1872, 2016.  
 Franquet, H., 2057.  
*Franz, B., see K. Zuhlkowsky.*  
*Franz, K., see I. G. Farbenindustrie.*  
 Franz, K., 242, 2436.  
 Franz, K., and C. Dankert, 2436.  
 Franzen, H., and M. Luther, 1045.  
 Fraser, F., 2595.  
 Frazier, R., and E. Reid, 871.  
*Fred, E., see R. Allgeier.*  
*Fred, E., see W. Peterson.*  
 Fredenburgh, M., 1906.  
 Frederking, 2402.  
 Frederking, H., 2635.  
 Freeland, V., 2219.  
 Freeman, W., 2059.  
 Frei, J., 1270.  
 Freiburger, M., 1245.  
 Freitag, 1742.  
*Frejacques, M., see L. Simon.*  
 French Commission on Explosives, 1562.  
 French Ministre de la Guerre, 1931.  
 Frenkel, G., 230, 276, 871, 2528.  
 Frerichs, 1137.  
*Fretard, G., see G. Botrele.*  
 Freter, H., 458.  
 Freudenberg, K., 145, 188, 189, 230, 231, 536, 1102, 1105, 1114, 1116, 1118, 1127, 1312, 1328, 1510.  
 Freudenberg, K., C. Andersen, Y. Go, K. Friedrich and N. Richtmyer, 230, 1131, 1510.  
 Freudenberg, K., W. Belz and C. Niemann, 189, 231, 1174, 1502.  
 Freudenberg, K., and E. Braun, 145, 149, 1105, 1310.  
 Freudenberg, K., and E. Bruch, 875, 1130, 1159.  
 Freudenberg, K., E. Bruch and H. Rau, 189, 231, 1130, 1157.  
 Freudenberg, K., and W. Duerr, 230, 1631, 1732.  
 Freudenberg, K., W. Dürr and H. v. Hochstetter, 1503.  
 Freudenberg, K., and K. Friedrich, 231, 1131.  
 Freudenberg, K., K. Friedrich, I. Bumann and K. Soff, 1131.  
 Freudenberg, K., and M. Harder, 794.  
 Freudenberg, K., M. Harder and L. Markert, 1175.  
 Freudenberg, K., M. Harder, L. Markert and E. Spiess, 146, 231.  
 Freudenberg, K., and H. Hess, 1176.  
 Freudenberg, K., W. Kuhn, W. Duerr, F. Bolz and G. Steinbrunn, 231, 1130.  
 Freudenberg, K., and K. Smeykal, 1501.  
 Freudenberg, K., H. Zocher and W. Duerr, 231, 794.  
*Freudenberger, H., see H. Staudinger.*  
 Freund, M., and E. Speyer, 1932.  
 Freund, S., and B. Stauffer, 647.

- Frey, 1636.  
 Frey & Co., G., 1971.  
 Frey, A., 1179.  
 Frey, K., *see* H. Staudinger.  
 Frey, W., and E. Eloed, 969.  
 Fric, M., 1358.  
 Fricke, R., and P. Klempt, 537.  
 Friedlaender, P., *see* L. Ettinger.  
 Friedemann, T., *see* P. Shaffer.  
 Friederich, A., 2114.  
 Friederich, A., and Aceta Ges., 2121.  
 Friederich, A., and P. Schlack, 2098.  
 Friedman, E., 390.  
 Friedman, L., *see* K. Klemm.  
 Friedman, L., 1052.  
 Friedmann, M., 969, 2085.  
 Friedrich, A., 1176.  
 Friedrich, A., and J. Diwald, 1176, 1632.  
 Friedrich, A., and E. Pelikan, 1632.  
 Friedrich, C., *see* K. Friedrich.  
 Friedrich, H., *see* I. G. Farbenindustrie, A.-G.  
 Friedrich, K., *see* K. Freudenberg.  
 Friedrich, K., and C. Friedrich, 189, 2402.  
 Friese, H., *see* K. Hess.  
 Friese, H., *see* K. Roos.  
 Friese, H., 792, 820.  
 Friese, H., and K. Hess, 647.  
 Friese, H., and K. Roos, 969.  
 Friesenhahn, P., 458, 587, 1981, 1983, 1987.  
 Frischer, H., 793.  
 Fritzman, E., 647.  
 Fromm, A., 252.  
 Frothingham, D., and R. Sawyer, 458.  
 Frued, M., 2609.  
 Frush, H., *see* D. Brauns.  
 Frydlander, J., 871, 2400, 2621.  
 Fuchs, A., 537.  
 Fuchs, K., and E. Katscher, 212, 1262, 1621.  
 Fuchs, O., *see* Holzverkohlungs-Ind. A.-G.  
 Fuchs, O., *see* K. Roka.  
 Fuchs, W., 647, 664, 725, 794, 836, 1174.  
 Fuchs, W., and R. Daur, 277, 1629.  
 Fuchs, W., and O. Horn, 794, 1630.  
 Fudakowsky, H., 320.  
 Fuehner, H., 1277.  
 Fuerst Guido Donnersmarck'sche Kunstseiden und Acetawerke, 361.  
 Fuess, J., *see* H. Gray.  
 Fuess, J., *see* C. Staud.  
 Fuess, J., and C. Staud, 969.  
 Fujise, S., and K. Seisakusho, 537.  
 Fukushima, I., and Y. Takamatsu, 795, 1197, 1495.  
 Fuller, H., 537.  
 Fulton, S., *see* British Celanese, Ltd.  
 Fulton, S., *see* H. Dreyfus.  
 Fulton, S., *see* G. Langdon.  
 Fulton, S., *see* C. Palmer.  
 Fulton, S., G. Tyce and Brit. Celanese, Ltd., 2142.  
 Funk, O., *see* E. Valet.  
 Furness, R., 537.  
 Furst Guido Donnersmarck'sche Kunstseiden und Acetatwerke, 41, 1891, 2237.  
 Fyfe, A., *see* J. Irvine.  
 Gabriel, C., 969, 1879, 1906, 1952, 1971, 2396.  
 Gabriel, C., and C. Bogin, 1945.  
 Gaebel, J., *see* J. Huebner.  
 Gahlert, F., 2118, 2121, 2137.  
 Gaisenband, B., and C. Piestrak, 41, 458, 1819, 1828, 2005, 2055, 2529, 2571.  
 Galetzka, A., 648.  
 Galland, A., 2492.  
 Galloway, W., *see* G. Whitby.  
 Galvin, A., 2140.  
 Gams, A., and G. Widmer, 2054.  
 Gannter, F., 2061.  
 Ganzinotti, P., 2618.  
 Gardner, H., *see* Courtaulds, Ltd.  
 Gardner, H., 146, 277, 537, 627, 648, 871, 872, 1077, 1372, 1770, 1942, 1998, 2178, 2182, 2481, 2503, 2585.  
 Gardner, H., and C. Knauss, 871, 1371, 2400.  
 Gardner, H., C. Knauss and A. van Heuckroth, 795.  
 Gardner, J., 1926.  
 Garke, R., E. Meyer and W. Claasen, 68, 1928.  
 Garland, W., *see* C. Tuckfield.  
 Garlick, H., 1770.  
 Garner, J., and H. Clayton, 1269.  
 Garthe, E., *see* K. Hess.  
 Gasiorowski, K., and A. Wayss, 1293.  
 Gaston, A., 2618.

- Gates-Warren, A. & E., and Precious Metal Industries, Ltd., 648.  
*Gates-Warren, E., see A. Gates-Warren.*  
 Gathmann, E., 2128.  
*Gaulis, M., see A. Pictet.*  
*Gault, H., see Soc. des Usines Chim. Rhone-Poulenc.*  
 Gault, E., 2663.  
 Gault, H., 537, 538, 1494, 1960, 1999, 2027, 2663.  
 Gault, H., and M. Angla, 1728.  
 Gault, H., and P. Ehrmann, 153, 538, 648, 1704, 1705, 1706.  
 Gault, H., and M. Urban, 538.  
*Gaunt, R., see Bleachers' Assoc., Ltd.*  
 Gautier, A., 2.  
*Gaven, W., see W. Hoyt.*  
 Gawlich, G., 377.  
 Gay-Lussac, L., 1276.  
*Geake, A., see C. Birtwell.*  
*Geake, A., see D. Clibbens.*  
 Geake, A., 94, 1150.  
 Geake, A., and M. Nierenstein, 94, 1329, 1389.  
 Gebauer-Fuelnegg, E., and O. Dingler, 231.  
 Gebauer-Fülnegg, E., W. Stevens and O. Dingler, 146, 231, 1680, 1686.  
 Gebauer-Fuelnegg, E., W. Stevens and E. Krug, 231, 649.  
 Gebr. Bellmer Maschinenfabrik, 1149.  
 Gebr. Eckert, 2567.  
*Geiger, G., see H. Gibbs.*  
 Geigy, J., 538, 2292, 2325.  
 Geigy, J., Akt-Ges., 649, 2209.  
*Geinsperger, E., see Z. Skraup.*  
 Geinsperger, E., 621, 1734.  
 Geldermann, H., 1931.  
 Geller, R., 2481.  
*Gemberling, A., see S. Bigelow.*  
 Gendre, J., 649.  
 General Aniline Works, Inc., 2256, 2277.  
 General Dyestuff Corp., 649, 2290.  
*General Electric Co., see E. Dawson.*  
 General Electric Co., 341, 1934, 1950.  
*General Rubber Co., see R. Rose.*  
 Genin, G., 1953.  
*Gensel, H., see I. G. Farbenindustrie.*  
 Gentile, M., 970.  
 Gentile, M., and S. Weis, 970.  
 Genvresse, P., 2045.  
*Gerecs, A., see G. Zemplen.*  
 Gerhardt, O., 970.  
*Gerin, F., see L. Vignon.*  
 Gerli, P., and O. Ross, 2128.  
*Gerngross, O., see W. Abitz.*  
*Gerngross, O., see H. Pringsheim.*  
 Gerngross, O., 970.  
 Geromont, F., 1291.  
 Gesellschaft für chemische Industrie in Basel, 129, 165, 210, 250, 251, 255, 298, 299, 427, 717, 718, 719, 831, 907, 1009, 1010, 1011, 1039, 1040, 1058, 1061, 1064, 1065, 1070, 1080, 1088, 1388, 1398, 1410, 1427, 1466, 1603, 1635, 1639, 1647, 1664, 1684, 1695, 1732, 1736, 1741, 1743, 1744, 1745, 1746, 1747, 1758, 1761, 1762, 1765, 1766, 1987, 2133, 2195, 2208, 2228, 2233, 2248, 2249, 2250, 2251, 2274, 2275, 2283, 2289, 2298, 2313, 2314, 2319, 2397, 2628, 2638, 2641.  
 Gesellschaft f. Gelatinierungen, 2616.  
 Ges. für Verwertung Chemischer Produkte, 538.  
 Geserich, A., 2005.  
*Geslin, B., see J. Wolf.*  
*Gessner, L., see H. Ost.*  
 Gestetner, D., 1493, 2498.  
 Gestetner, D., Ltd., 2489, 2498.  
 Geuther, A., 1931, 1932, 1995.  
*Giaja, J., see H. Bierry.*  
 Gibbs, H., and G. Geiger, 1296.  
 Gibson, W., 1180, 1358.  
 Gibson, W., and R. McCall, 1775.  
*Giebmanns, A., see K. Bratring.*  
 Giebmanns, A., 189, 795, 1561.  
 Giebmanns, A., and E. Roth, 795.  
 Gilbert, 1276.  
*Gilchrist, H., see J. Irvine.*  
 Gilchrist, H., and C. Purves, 1497.  
 Gilchrist, P., and H. Schuette, 970.  
*Gilkey, W., see F. Bergstrom.*  
 Gill, H., 2121.  
*Gillard, P. Monnet. et Cartier, see Soc. Chim. des Usines du Rhone.*  
*Gilles, W., see Courtaulds, Ltd.*  
*Gillespie, H., see H. Clarke.*  
 Gillet & Fils, 538, 2120.  
 Gillet, C., 2053.  
 Gillies, D., 1770.  
 Gillis, L., 1179.  
*Gilman, J., see M. Lamb.*  
 Gilmore, D., 970, 2129.



- Gilmore, R., 1079.  
*Gilmour, R., see Distillers Co., Ltd.*  
*Gilmour, R., see J. Irvine.*  
 Gilmour, R., and W. Dunville & Co., 458, 1865, 1910.  
 Gilston, S., 970.  
 Ginsberg, I., 539, 970, 1808.  
 Gintl, W., 1679.  
 Girard, A., 76, 316, 332, 333, 1139, 1316, 1732.  
 Girard, A., and M. Roumazeilles, 649, 2392.  
 Girard, P., 2371.  
 Girnunskii, S., 795.  
 Girves, J. de, 1817, 1824.  
 Girzik, E., 459.  
 Gisdakis, H., 796, 1181.  
*Given, G., see S. Shipley.*  
 Given, G., H. Letts and N. Thomson, 1094.  
 Given, G., and N. Thomson, 2483.  
 Gladstone, J., 1199.  
 Glaessner, A., *see* G. Pum.  
 Glanzfaeden, A.-G., 1244.  
 Glaser, C., 872.  
 Glaser, P., 1915.  
 Glass, P., and H. Halloran, 459.  
 Glasurit-Werke M. Winkelmann, 649, 2398.  
 Glazebrook, R., W. Rouse and A. Johnston, 459.  
 Glietenberg, E., 1069, 1831.  
*Glover, W., see Courtaulds, Ltd.*  
 Glover, W., 68, 2085.  
 Glover, W., and Courtaulds, Ltd., 1616.  
 Glover, W., and C. Diamond, 114, 146, 1661.  
 Glover, W., and C. Topham, 114, 2100, 2106.  
 Glover, W., and E. van Weyenberg, 69, 1661.  
 Glover, W., and L. Wilson, 1229.  
 Glysyn Corp., 539.  
 Gmelin, B., 649, 2351.  
*Gmelin, W., see W. Eckert.*  
 Gminder, E., 1231.  
*Go, K., see K. Freudenberg.*  
*Godbout, A., see J. McNally.*  
 Godchot, M., and F. Taboury, 1989.  
 Goddard, C., 872, 2158.  
*Godon, F. de, see A. Mailhe.*  
 Godwin, H., and A. Hoffman, 2601.  
 Goerner, G., 539, 1812.  
*Goes, M., see M. Phillips.*  
 Goeschke, A., 115, 2283.  
 Goissedet, P., 41, 446, 459, 831, 1760, 2032.  
 Goissedet, P., and H. Guinot, 474, 1996, 1999.  
 Golby, F., and H. Ahrle, 1807.  
 Golding, H., F. Leicester, H. Hirst, S. Rowell and Imperial Chemical Industries, Ltd., 302.  
 Goldman, M., and C. Hubbard, 650.  
 Goldreich, S., C. McKerrow and Splinterless Anti-Mist Glass Syndicate, Ltd., 424.  
 Goldschmidt, S., 650.  
 Goldschmidt Akt-Ges., T., 1251.  
 Goldschmidt A. G., T., and O. Matter, 539.  
 Goldsmith, B., 459, 460, 1894, 2056, 2601.  
*Goldsmith, J., see British Emaillite Co., Ltd.*  
*Goldsmith, J., see Spicers, Ltd.*  
 Goldsmith, J., 1789, 1868, 1939, 2019.  
 Goldsmith, J., T. Baker, C. Bonamico and Spicers, Ltd., 277, 2532.  
 Goldsmith, J., T. Baker and Spicers, Ltd., 231, 2530.  
 Goldsmith, J., and British Xylonite Co., Ltd., 1844, 1923, 1939, 1953, 1961, 1967.  
 Goldsmith, J., and Spicers, Ltd., 872, 909.  
 Goldstein, K., 369.  
*Goldthorpe, W., see British Celanese, Ltd.*  
*Goldthorpe, W., see G. Ellis.*  
 Gollnick, P., 2499.  
 Gomberg, M., 1518.  
 Gomberg, M., and C. Buchler, 69, 1161, 1514, 1518, 1531.  
 Gomm, A., and M. Nierenstein, 1264.  
*Gonell, H., see R. Herzog.*  
 Gonell, H., 1119.  
*Gonfard, M., see L. Meunier.*  
*Gonon, C., see J. Achard.*  
 Gooch, W., 650.  
 Goodhue, L., A. White and R. Hixon, 1501.  
 Goodman, L., 277.  
*Goodwin, W., see L. Maquenne.*  
*Goodwin, W., see Siemens Bros. & Co., Ltd.*  
 Goodyear, E., and W. Haworth, 1500.  
 Gordon, W., 1199.  
*Gorgas, A., see H. Pringsheim.*  
*Gorhan, A., see Deutsche Gold-und*

- Silber-Scheideanstalt vorm. Roessler.*  
 Gorhan, A., 970, 1034.  
 Gorsline, 2458.  
 Gostling, M., *see* H. Fenton.  
 Goto, K., and K. Takubo, 1264.  
 Gotthart, B., *see* F. Fischer.  
 Gottlob, K., 539.  
 Gottstein, A., 1618.  
 Goudet, C., *see* J. Breslauer.  
 Gow and St. Armande, 415.  
 Graebe, C., 1257, 1266.  
 Graenacher, C., 277, 970, 971, 1057, 1597, 1608, 1660, 2279, 2643.  
 Graf, A., 2474.  
 Graham, P., 1422.  
 Graham, T., 1779.  
 Gramophone Co., Ltd., and S. Whyte, 796, 2604.  
 Gramophone Co., Ltd., S. Whyte and W. Lord, 1098.  
 Grandmougin, E., 378, 1266.  
 Grant, D., and C. Johns, 539.  
 Grard, J., 1052.  
 Grasse-Cristaldi, G., and C. Maselli, 1293.  
 Grasselli Chem. Co., 540.  
 Grasselli Dyestuff Corporation, 2255, 2275.  
 Graves, E., 539.  
 Graves, S., 539.  
 Gray, H., *see* A. Corey.  
 Gray, H., *see* T. Murray.  
 Gray, H., *see* C. Staud.  
 Gray, H., *see* R. Titus.  
 Gray, H., *see* R. Van Dyke.  
 Gray, H., *see* C. Webber.  
 Gray, H., 796, 971, 1062, 1113, 1116.  
 Gray, H., T. Murray, Jr., and C. Staud, 796.  
 Gray, H., and C. Staud, 650, 651, 1057, 1152.  
 Gray, H., C. Staud and J. Fuess, 1205.  
 Gray, H., C. Staud and C. Webber, 1033, 1057, 1059.  
 Green, A., 7, 1110.  
 Green, A., and K. Saunders, 540, 541, 556, 1931, 2289, 2290.  
 Green, A., K. Saunders and British Dyestuffs Corp., Ltd., 540.  
 Green, C., 651.  
 Green, S., *see* British Celanese, Ltd.  
 Green, S., *see* H. Dreyfus.  
 Green, W., *see* W. Lewis.  
 Greenhalgh, E., *see* British Celanese, Ltd.  
 Greenhalgh, E., *see* G. Ellis.  
 Greenhalgh, E., 797, 2223.  
 Greenhalgh, F., 651.  
 Greenhill, M., *see* G. Heyl.  
 Greening, F., 1181, 1805.  
 Greenwich Inlaid Linoleum Co., Ltd., and A. Dewar, 1092.  
 Greenwood, E., *see* British Celanese, Ltd.  
 Greenwood, E., *see* W. Dickie.  
 Gregg, A., 651, 2544.  
 Gregory, L., *see* British Celanese, Ltd.  
 Gregory, L., *see* R. Roberts.  
 Greif-Werke, 2492.  
 Grier, W., 797.  
 Griesheim Elektron, 1944.  
 Griffiths, F., 2471.  
 Griffiths, F., J. Shufflebotham and Imperial Chemical Industries, Ltd., 231, 2471.  
 Grillet, N., 69, 115, 1446, 2115.  
 Grimm, A., *see* E. Winter.  
 Grimoin-Sanson, R., 2601.  
 Grimshaw, A., 651, 652, 2137.  
 Grindrod, G., 541.  
 Grinten, F. van der, 2006.  
 Gripon, E., 2458.  
 Griswold, J., *see* E. Barstow.  
 Groenewege, J., 541.  
 Groenewege, J., and J. Grolea, 541.  
 Groff, F., 2393.  
 Groggins, P., 1806.  
 Grognot, L., W. Massot and W. Doht, 368.  
 Grolea, J., *see* J. Groenewege.  
 Grolea, J., and J. Weyler, 460, 1950, 1952.  
 Gromov, S., 1078.  
 Groombridge, W., *see* British Celanese, Ltd.  
 Grosheintz, H., 1291.  
 Gross, Sherwood & Heald, Ltd., R. Phillips and H. Thurlow, 1989.  
 Gross, C., *see* A. Kendall.  
 Gross, C., and W. Lewis, 277, 1501.  
 Gross, P., and J. Saylor, 1276.  
 Grossmann, P., *see* O. Bally.  
 Grossmann, P., *see* O. Bally.  
 Grossman, P., 971, 1088.  
 Grosvenor, W., 460.  
 Grote, L., 432.  
 Grotte, W., 147.  
 Grove-Palmer, F., 652, 797, 872, 971, 2288, 2341, 2370.  
 Groves, S., *see* British Aeroplane

- Varnish Co., Ltd.*  
 Groves, S., 101, 2484.  
 Groves, S., and T. Ward, 460, 541, 2059.  
 Gruber, W., *see* A. Ascherl.  
 Gruber, W., 797, 1822.  
 Gruen, A., *see* E. Zollinger.  
 Gruen, A., and F. Wittka, 153, 541, 1703.  
 Gruenstein, N., *see*  
*Chem. Fabr. Griesheim-Elektron.*  
 Grünstein, N., 541, 1868, 1869.  
 Grueter, R., 460, 1735, 1944.  
 Grunert, C., *see* W. Traube.  
 Grunsteidl, *see* Beutel.  
 Grunert, C., *see* W. Traube.  
 Grunstein, N., and P. Berge, 652.  
 Gubelmann, I., and C. Henke, 1955.  
 Gubinol Ges., 424.  
 Guehring, E., *see* M. Hagedorn.  
 Gühring, E., *see*  
*I. G. Farbenindustrie.*  
 Gühring, E., and I. G. Farbenindustrie, 1436.  
 Guenther, A., *see*  
*I. G. Farbenindustrie.*  
 Guenther, A., *see* K. Meyer.  
 Guenther, E., *see* B. Helferich.  
 Gunther, F., *see*  
*I. G. Farbenindustrie.*  
 Günther, F., *see* H. Schütte.  
 Guenther, F., 1527, 2276.  
 Guenther, F., and Badische Anilin & Soda Fabrik, 494.  
 Guerard, J., 147, 2402, 2552, 2572.  
 Guest, H., *see* T. Johnson.  
 Güttler, H., 2003.  
 Guglielmelli, L., A. Novelli, C. Ruiz and C. Anaslasi, 2055.  
 Guignet, C., 319.  
 Guilford, T., 2606.  
 Guillet, V., *see* H. Mauvillain.  
 Guillumette, 1034.  
 Guinot, H., *see* P. Goissedet.  
 Guinot, H., *see* E. Ricard.  
 Guinot, H., 798, 1875.  
 Gump, W., 798, 2564.  
 Gund, F., 1085.  
 Gundlach, A., *see*  
*I. G. Farbenind. A.-G.*  
 Gunkel, L., *see* E. Heuser.  
 Gunnell, O., 652, 2231.  
 Gunther, F., 2045.  
 Guntrum, H., *see* O. Bonhoeffer.  
 Gustafson, A., 652.  
 Gustavson, G., 1268, 1275.  
 Gustavsson, K., 1165.  
 Gustus, E., *see* W. Lewis.  
 Gutehoffnungshutte Oberhausen, 1034, 1046.  
 Gutehoffnungshutte Oberhauser Akt-Ges., 873.  
 Gutsche, J., 418.  
 Guyler, A., *see*  
*British Celanese, Ltd.*  
 Guyot, A., 541, 1034.  
 Guyot, J., and L. Simon, 1260, 1261, 1265.  
 Guyot, R., *see* L. Meunier.  
 Gyzander, A., 873.  
 Haaf & Co., *see* Aktien-Ges.  
 Haag, W., *see* W. Michael.  
 Haase, E., 1296.  
 Haeggund, E., 1174.  
 Häggund, E., and F. Klingstedt, 1195, 1631.  
 Häggund, E., N. Löfman and E. Färber, 542.  
 Haehle, H., *see*  
*I. G. Farbenindustrie.*  
 Hahle, H., *see* H. Schladebach.  
 Haehnel, W., and W. Herrmann, 1994.  
 Haen, E. de, 429, 460.  
 Haen Chemische Fabrik Ges., E. de, 448.  
 Härle, R., *see* E. Klenk.  
 Haeussermann, 369.  
 Haeussermann, C., 353.  
 Hagedorn, M., *see*  
*I. G. Farbenindustrie.*  
 Hagedorn, M., *see* E. Richter.  
 Hagedorn, M., 240, 1091, 1852, 2624.  
 Hagedorn, M., and Akt. Ges. für Anilin-Fabrikation, 592.  
 Hagedorn, M., and E. Guehring, 971, 1688, 1712.  
 Hagedorn, M., and G. Hingst, 1657.  
 Hagedorn, M., and I. G. Farbenindustrie, Akt-Ges., 879.  
 Hagedorn, M., and A. Jung, 1669, 2484, 2591.  
 Hagedorn, M., and P. Moeller, 278, 1342, 1344, 1355, 1552.  
 Hagedorn, M., and A. Ossenbrunner, 1756.  
 Hagedorn, M., A. Ossenbrunner and I. G. Farbenindustrie, 278.  
 Hagedorn, M., and O. Reichert, 278, 1741, 2398.  
 Hagedorn, M., O. Reichert and E. Guehring, 242, 1673.

- Hagedorn, M., and E. Rossbach, 2646.  
Hagedorn, M., W. Ziese, B. Reyle and R. Bauer, 2641.  
Hagenbuch, W., *see* A. Bernoulli.  
Hagenbuch, W., 971, 1158.  
Hager, H., 2326.  
Hagglund, E., 542.  
Hagiwara, K., *see* T. Iwasaki.  
Hahl, H., *see* P. Schickler.  
Hahl, H., *see* L. Taub.  
Hahn, 2662.  
Hahn, F., *see* C. Burke.  
Hahn, F., *see* Canadian Industries, Ltd.  
Hahn, F., *see* Imperial Chemical Industries, Ltd.  
Hahn, F., 187, 202, 278, 940, 971, 972, 1449, 1961, 2393, 2396, 2397.  
Hahn, K., 972.  
Hahn, R., *see* L. Kalb.  
Hahn, S., 2618.  
Haig, D., 2618.  
Haigh, F., 461, 542, 2440.  
Hailwood, A., *see* British Dyestuffs Corp., Ltd.  
Hailwood, H., *see* Imperial Chemical Industries, Ltd.  
Haines, H., 1833.  
Haines, R., J. Pletts and E. Lauste, 2601.  
Hake, C., and R. Lewis, 1680.  
Halban, H. v., 1296.  
Halberschadt, H., *see* C. Trogus.  
Haldeman, W., *see* W. Hale.  
Hale, F., *see* British Celanese, Ltd.  
Hale, F., *see* W. Dickie.  
Hale, F., *see* H. Dreyfus.  
Hale, W., 1048.  
Hale, W., and W. Haldeman, 652.  
Halen, S., 542, 1493.  
Halkyard, H., *see* C. Addy.  
Halkyard, H., *see* British Celanese, Ltd.  
Halkyard, H., *see* W. Dickie.  
Hall, A., *see* Silver Springs Bleaching & Dyeing Co., Ltd.  
Hall, A., *see* Timbersbrook, Ltd.  
Hall, A., 542, 652, 714, 798, 873, 874, 972, 1087, 1204, 2133, 2146, 2163, 2164, 2165, 2185, 2219, 2281, 2298, 2303, 2305, 2307.  
Hall, A., and M. Aische, 653.  
Hall, A., and R. Hill, 653.  
Hall, A., and Silver Springs Bleaching & Dyeing Co., Ltd., 543, 2284.  
Hall, E., 874.  
Hall, L., *see* C. Fox.  
Hall, W., *see* E. Knecht.  
Hallauer, F., 2585.  
Halle, C., 653.  
Haller, A., 1969.  
Haller, H., *see* E. Adams.  
Haller, J., 279, 1742.  
Haller, R., 1149, 1220.  
Haller, R., and A. Heckendorn, 305, 1099, 1765.  
Haller, R., A. Heckendorn and Soc. Chem. Industry, Basle, 1640.  
Haller, R., and F. Kurzweil, 2240.  
Haller, W., 972, 2045.  
Haller, W., and H. Ortloff, 1052.  
Halloran, H., *see* P. Glass.  
Halstead, R., *see* W. Pratt.  
Ham, M., *see* R. Ham.  
Ham, R., and M. Ham, 972.  
Hamburger, H., *see* Z. Skraup.  
Hamel Akt-Ges., C., and E. Hamel, 2123.  
Hamel, E., *see* C. Hamel Akt-Ges.  
Hamid, M., K. Singh and H. Dunn-cliff, 1280.  
Hamill, R., *see* J. Sherts.  
Hamilton, A., 1266.  
Hamilton, J., 2028.  
Hamilton, T., 653.  
Hamlin, C., 653.  
Hamm, H., and R. Stevens, 799.  
Hammick, D., and J. Mullaly, 1298.  
Hammond, T., *see* E. Chambers.  
Hamon, L., 1165.  
Hancock, H., *see* W. Balls.  
Hand, C., 654.  
Hand, C., T. Bartram and A. Maude, 799.  
Hand, C., and Rubber Service Laboratories Co., 654.  
Hand, J., *see* T. Ward.  
Handley, R., *see* British Celanese, Ltd.  
Handley, R., *see* H. Dreyfus.  
Hands, H., *see* Spicers, Ltd.  
Hands, H., 115, 654, 972, 1820, 1897, 1898, 2529.  
Hands, H., and Spicers, Ltd., 115, 147, 799, 1820, 1897, 2174, 2524, 2525.  
Handy, A., and L. Hoyt, 654.  
Haney, C., *see* British Celanese, Ltd.  
Haney, C., *see* C. Dreyfus.  
Haney, C., *see* H. Dreyfus.  
Haney, H., *see* C. Dreyfus.  
Hann, 2662.

- Hann, F., see C. Burke.*  
 Hanna, C., 973.  
 Hanns, J., 2029, 2030.  
 Hanselmann, H., 1240.  
*Hanson, H., see C. Blodgett.*  
 Hanson, H., and S. Seaman, 1170.  
 Harcombe, J., 2608.  
*Hardacre, R., see Imperial Chem. Industries, Ltd.*  
 Hardcastle, J., and A. Taylor, 429, 445.  
*Harder, M., see K. Freudenberg.*  
 Harding, E., 1270.  
 Harding, T., 1156.  
*Hardtmann, M., see W. Hentrich.*  
 Hardt-Stremayr, E., 366.  
*Haring, K., see Anhydrit-Lederwerke Akt.-Ges.*  
*Haring, K., see W. Spalteholz.*  
 Haring, K., 461.  
 Harlow, M., 1175.  
 Harmann, L., and F. Kaufler, 654.  
 Harned, H., and R. Ehlers, 1034.  
 Harold, J., 2381.  
 Harries, C., R. Koetschau and E. Albrecht, 461.  
 Harris, V., 2601.  
 Harrison, A., 654.  
 Harrison, G., 2603.  
*Harrison, W., see Burgess, Ledward & Co., Ltd.*  
*Harrison, W., see E. Knecht.*  
 Harrison, W., 147, 254, 543, 973, 1142, 1645, 1748, 1769, 1973, 2117, 2121, 2135.  
 Hart, N., and R. Bacon, 1858, 2608.  
 Harter, P., 2538.  
*Hartlein, H., see I. G. Farbenind. A.-G.*  
*Hartley, H., see C. Hinshelwood.*  
*Hartman, W., see H. Clarke.*  
*Hartmann, E., see W. Walter.*  
 Hartmann, H., 2492.  
*Hartmann, M., see P. Huessy.*  
 Hartmann, M., 1612, 1665.  
 Hartmann, M., and Soc. anon. pour l'ind. chim. a Bale, 231.  
 Hartmuth, R., 1177.  
*Hartwich, F., see E. Schwenk.*  
 Harvel Corp., 2045.  
*Harvey, C., see J. McBain.*  
 Harvey, M., 973, 2398.  
 Harvey, R., and H. Day, 2202.  
 Harvey, W., 2606.  
 Haschkowerke Eberhard & Jakob, 461.  
*Hashimoto, H., see Nippon Chisso.*  
*Hiryo Kabushiki-Kaisha.*  
*Hasimoto, H., see Nihon Tisso.*  
*Hiryo K. K.*  
 Haskins, J., 1057.  
*Haslett, D., see C. Field.*  
 Hasse, G., 279, 2326.  
 Haste, J., 70, 654, 2507, 2511, 2512.  
 Haste, J., and E. Ward, 70, 2511, 2512.  
*Hata, K., see Y. Ueda.*  
*Hatch, R., see R. Wolf.*  
 Hatcher, W., E. Steacie and F. Howland, 974.  
 Hatschek, E., 2459.  
 Haudricourt, L., 2616.  
 Haughey, T., 1179.  
 Haunschild, H., 655.  
 Hauser, E., 1120.  
 Hauser, O., and H. Muschner, 426, 621, 1494, 1733.  
 Hausheer, E., 255, 1758.  
*Haussmann, H., see H. Schütte.*  
 Haven, G., 874.  
 Haver, E., 875, 974, 2553.  
 Hawerlander, A., 2606.  
*Hawkes, B., see O. Hawkes.*  
 Hawkes, O., and B. Hawkes, 2588.  
 Hawley, L., and R. Palmer, 1131.  
 Hawlik, H., and O. Sindl, 1232.  
*Haworth, W., see C. Anderson.*  
*Haworth, W., see J. Avery.*  
*Haworth, W., see S. Baker.*  
*Haworth, W., see H. Bott.*  
*Haworth, W., see S. Carter.*  
*Haworth, W., see W. Charlton.*  
*Haworth, W., see H. Drew.*  
*Haworth, W., see E. Goodyear.*  
*Haworth, W., see J. Irvine.*  
 Haworth, W., 42, 232, 301, 1045, 1102, 1110, 1115, 1121, 1264, 1312, 1498, 1499, 1502, 1504, 1507, 1629.  
 Haworth, W., and W. Hickinbottom, 1510.  
 Haworth, W., and E. Hirst, 75, 543, 1126, 1499, 1510.  
 Haworth, W., E. Hirst and O. Ant-Wuorinen, 2621.  
 Haworth, W., E. Hirst and D. Jones, 1499.  
 Haworth, W., E. Hirst and A. Learner, 1497, 1500, 1506.  
 Haworth, W., E. Hirst and E. Miller, 1497.  
 Haworth, W., E. Hirst and M. Plant, 279, 1505.  
 Haworth, W., E. Hirst and D. Ruell, 1502, 1506.

- Haworth, W., E. Hirst and H. Samuels, 974, 1498.  
 Haworth, W., E. Hirst and M. Stacey, 1507.  
 Haworth, W., E. Hirst and H. Streight, 279, 1503.  
 Haworth, W., E. Hirst and E. Teece, 1509.  
 Haworth, W., E. Hirst and H. Thomas, 232, 280, 1323, 1510.  
 Haworth, W., E. Hirst and J. Webb, 1477, 1478, 1496.  
 Haworth, W., and J. Irvine, 1258, 1259, 1283.  
 Haworth, W., and J. Law, 42.  
 Haworth, W., and A. Learner, 1160, 1500.  
 Haworth, W., and G. Leitch, 42, 75, 1502, 1510.  
 Haworth, W., J. Loach and C. Long, 1502.  
 Haworth, W., and C. Long, 1499, 1502.  
 Haworth, W., and H. Machemer, 2621.  
 Haworth, W., and J. Mitchell, 1507.  
 Haworth, W., and J. Nelson, Ltd., 655.  
 Haworth, W., and S. Peat, 1500.  
 Haworth, W., and E. Percival, 974, 1501.  
 Haworth, W., and C. Porter, 1497.  
 Haworth, W., D. Ruell and G. Westgarth, 1503.  
 Haworth, W., and H. Streight, 1158, 1161.  
 Hay, A., 875.  
 Hayemal, P., 655.  
 Hayes, D., *see Cellulose Acetate Silk Co., Ltd.*  
 Hayes, M., *see J. Reilly.*  
 Hayhurst, E., *see G. Kober.*  
 Hazard, R., 655.  
 Hazel, E., *see Courtaulds, Ltd.*  
 Hazura, K., A. Nadherny and F. Maly, 2499.  
 Head, P., 655, 799, 1885, 1986, 2589.  
 Head, R., 2601.  
 Healey, J., 2124.  
 Healy, A., 1962.  
 Heaton, N., 2061.  
 Heaven, G., *see Courtaulds, Ltd.*  
 Hebbs, L., *see C. Cross.*  
 Hebden, J., 1148.  
 Heberlein & Co., 115, 116, 799, 998, 1072, 1084, 1233, 2222, 2644.  
 Heberlein, G., 655, 2349.  
 Heberlein, G., and A. Bodmer, 1057.  
 Hebermehl, R., *see I. G. Farbenindustrie.*  
 Hebermehl, R., *see L. Rosenthal.*  
 Heckendorn, A., *see R. Haller.*  
 Hefti, F., 2031.  
 Hefti, F., and W. Schilt, 655.  
 Hegan, H., *see Courtaulds, Ltd.*  
 Hegeman, J., *see A. Russell.*  
 Heidenhain, J., 974.  
 Heidenreich, R., 196, 2221.  
 Heidenstam, G. v., *see P. Klason.*  
 Heilbronner, L., 2057.  
 Heim, E., 656.  
 Heimann, H., *see F. Becker.*  
 Heimann, H., and A. Bayerl, 656, 799, 1699.  
 Heimann, H., E. Opfermann, I. Petersen, K. Bitterfeld and A. Bayerl, 1170.  
 Heimann, H., I. Petersen and A. Bayerl, 1408.  
 Heimann, H., I. Petersen, A. Bayerl and H. Seefried, 1407.  
 Heimann, H., I. Petersen, K. Bitterfeld, A. Bayerl and H. Seefried, 1408.  
 Heimann, S., 2002.  
 Heimerdinger, E., 2601, 2606.  
 Heinemann, A., 1776.  
 Heinrich, C., *see J. Delpech.*  
 Heinsohn, D., 2472.  
 Heintz, W., 1721, 1884.  
 Heinzerling, C., 2128.  
 Heisenberg, E., 975.  
 Helbing, H., 1274.  
 Helbronner, A., 1913.  
 Helbronner, A., and G. Criquebeuf, 461, 1681, 1913.  
 Hele-Shaw, H., and J. Pickard, 656, 1494.  
 Helferich, B., and N. Bigelow, 1498.  
 Helferich, B., and S. Boettger, 800, 1320.  
 Helferich, B., and E. Guenther, 280, 1507.  
 Helferich, B., and E. Himmen, 1508.  
 Helferich, B., and H. Koester, 70, 1633.  
 Helferich, B., and O. Lang, 1508.  
 Helferich, B., and O. Peters, 1320.  
 Helferich, B., P. Speidel and W. Toeldte, 71, 1633.  
 Helferich, B., A. Staerker and O. Peters, 1154.  
 Helfrich, O., *see J. Kessler.*  
 Helle-Staux, 800.

- Hellriegel, E., see R. Herzog.*  
 Helm, L., 2601.  
 Helmert, B., 2280.  
 Hempel, H., 486.  
 Henckel-Donnersmarck, 404.  
*Henckel-Donnersmarck, G., see G. Donnersmarck.*  
 Henckel-Donnersmarck, G., 328, 404.  
*Henderson, J., see British Dyestuffs Corp., Ltd.*  
*Henderson, J., see R. Horsfall.*  
 Henderson, S., 1180.  
 Henderson, W., 543, 1147.  
*Henecka, H., see I. G. Farbenindustrie*  
 Henecka, H., and E. Dorr, 1462.  
 Henglein, F., and F. Schleicher, 800.  
 Hengstenberg, J., and H. Mark, 1120.  
 Hengstmann, W., 232, 1578, 2546, 2645.  
*Henke, C., see I. Gubelmann.*  
 Henkel, G., 2646.  
 Henkel and Cie, Ges., 1155.  
*Henle, F., see Farb. vorm. Meister, Lucius & Brüning.*  
 Henle, F., V. Lanz, G. Meder and F. Privinsky, 104, 1049.  
 Hennell, H., 1277.  
*Hennig, B., see A. Ruppert.*  
 Henning, A., 543, 1253, 1270, 1273, 2059.  
 Henning, C., and C. Burke, 1975.  
 Henning, C., C. Burke and E. Reid, 2393.  
 Henri, V., 1631.  
 Henri, V., and P. Steiner, 1631.  
 Henry, C., 331.  
 Henry, E., 1097.  
 Henry, L., 1954.  
*Hensel, W., see H. Pringsheim.*  
 Hentikka, S., 543.  
*Hentrich, W., see W. Duisberg.*  
 Hentrich, W., 168, 240, 975, 2256, 2262.  
 Hentrich, W., M. Hardtmann and H. Metzl, 975, 2244.  
 Hentrich, W., R. Knoche and M. Hardtmann, 148, 2262.  
 Henzman, M., 353.  
 Hepner, M., 543.  
*Hepworth, H., see Imperial Chemical Industries, Ltd.*  
*Heraud, R., see L. Nottelle.*  
*Herbert, R., see W. Charlton.*  
*Herbst, M., see R. Wietzel.*  
 Hercules Powder Co., 975, 2652, 2653.  
 Hercules Powder Co. and G. Peters, 1905.  
 Hercules Powder Co. and J. Rile, 1955.  
 Hering, O., 2458.  
*Herissey, H., see E. Bourquelot.*  
*Herlinger, H., see M. Beebe.*  
 Hermann, C., and T. Ditton, 1079.  
 Hermet, E., 329.  
 Herminghaus & Co., 1237.  
*Herminghaus, H., see K. Dörken.*  
*Herminghaus, H., see Lackfabrik. E. Dörken.*  
 Herold, A.-G., 656, 1494.  
 Herren, W., 2608.  
 Herrington, G., 2601.  
 Herrly, C., 656.  
*Herrmann, K., see W. Abitz.*  
 Herrmann, R., 543, 2564.  
*Herrmann, W., see Consortium für Elektrochem. Ind. G. m. b. H.*  
*Herrmann, W., see H. Deutsch.*  
*Herrmann, W., see W. Haehnel.*  
 Herrmann, W., and H. Deutsch, 656, 800, 975, 1034.  
 Herrmann, W., H. Deutsch and W. Raehnel, 975.  
 Hersant, E., and W. Linnell, 280, 1505.  
 Herstein, B., 1049.  
 Herstein, B., and U. S. Industrial Alcohol Co., 975.  
 Herstein, K., 656, 800.  
 Hertkorn, J., 1886.  
*Herve, A., see C. Piest.*  
 Herzog, 2663.  
 Herzog, A., 656, 657, 1137, 1166, 2663.  
*Herzog, R., see Roehm & Haas.*  
 Herzog, R., 71, 251, 657, 700, 1105, 1113, 1118, 1119, 1144, 1199, 1217, 1218, 1371.  
 Herzog, R., and F. Beck, 574.  
 Herzog, R., and A. Burgeni, 1080.  
 Herzog, R., and A. Deripasko, 1034, 1052.  
 Herzog, R., and G. Frank, 875, 1701.  
 Herzog, R., and H. Gonell, 544, 1162.  
 Herzog, R., A. Hildesheimer and F. Medicus, 1968.  
 Herzog, R., and A. Hillmer, 1631.  
 Herzog, R., A. Hillmer, E. Paersch and E. Hellriegel, 252.  
 Herzog, R., and W. Jancke, 71, 543, 1106, 1113, 1119, 1121.

- Herzog, R., W. Jancke and M. Polanyi, 1113.  
Herzog, R., and B. Lange, 280, 800, 1325.  
Herzog, R., and G. Laski, 1107.  
Herzog, R., and G. Londberg, 544, 1200.  
Herzog, R., and Röhm & Haas, 2084.  
Herzog, R., and H. Selle, 2131.  
Herzog, R., and H. Spurlin, 1566.  
Herzog, W., 1807.  
Hess, 536, 910, 1737.  
Hess, H., *see* K. Freudenberg.  
Hess, K., *see* K. Dziengel.  
Hess, K., *see* H. Friese.  
Hess, K., *see* J. Katz.  
Hess, K., *see* F. Micheel.  
Hess, K., *see* I. Sakurada.  
Hess, K., *see* G. Schultze.  
Hess, K., *see* T. Tomonari.  
Hess, K., *see* C. Trogus.  
Hess, K., *see* M. Ulmann.  
Hess, K., 71, 72, 149, 189, 232, 544, 591, 657, 875, 1106, 1111, 1112, 1116, 1117, 1130, 1145, 1157, 1159, 1162, 1199, 1312, 1313, 1319, 1368, 1471, 1649, 1650.  
Hess, K., and H. Friese, 116, 892, 1129, 1163, 1322, 1510.  
Hess, K., H. Friese and F. Smith, 739, 1492.  
Hess, K., and E. Garthe, 976.  
Hess, K., E. Garthe and C. Trogus, 2622.  
Hess, K., and F. Klages, 1065.  
Hess, K., and N. Ljubitsch, 658.  
Hess, K., and E. Messmer, 1357, 1705.  
Hess, K., and A. Mueller, 148, 1334, 1336.  
Hess, K., and A. Muller, 116.  
Hess, K., and H. Pichlmayr, 116, 149, 1310, 1315, 1334.  
Hess, K., and I. Sakurada, 976, 1359.  
Hess, K., and G. Salzmann, 116.  
Hess, K., and G. Schultze, 659, 660.  
Hess, K., G. Schultze and E. Messmer, 659.  
Hess, K., and R. Stahn, 1157.  
Hess, K., and C. Trogus, 149, 232, 248, 660, 800, 1120, 1121, 1219, 1325, 1326, 1371.  
Hess, K., C. Trogus and H. Friese, 149, 1314.  
Hess, K., C. Trogus, W. Ostwald and K. Dziengel, 875, 965.  
Hess, K., and M. Ulmann, 2622.  
Hess, K., and W. Weltzien, 74, 77, 1307, 1310, 1313, 1314.  
Hess, K., W. Weltzien and E. Messmer, 72, 1112.  
Hess, K., W. Weltzien, E. Messmer, E. Jagla, R. Singer, H. Jensen, A. Reh and F. Kunau, 73, 1313.  
Hess, K., W. Weltzien and R. Singer, 116, 658, 1510.  
Hess, K., and W. Wittelsbach, 42, 72, 1126, 1367, 1369, 1649.  
Hess, K., W. Wittelsbach and E. Messmer, 72, 1369.  
Hesse, A., 376, 1967.  
Hetherington, A., *see* Imperial Chem. Industries, Ltd.  
Hettche, O., *see* F. Wrede.  
Heuch, E., *see* E. Heusch.  
Heuck, C., *see* M. Luther.  
Heuckroth, A. van, *see* H. Gardner.  
Heuckeroth, A. van, *see* H. Parks.  
Heusch, E., 818, 2616.  
Heusch, E., and J. Paiseau, 427, 818, 2616, 2618.  
Heuser, E., 72, 75, 78, 1105, 1181, 1189, 1198, 1319, 1622.  
Heuser, E., and W. Ackermann, 544.  
Heuser, E., and R. Bartunek, 1189.  
Heuser, E., and E. Boedecker, 1111.  
Heuser, E., and F. Eisenring, 1678.  
Heuser, E., and N. Hiemer, 76, 78, 1107, 1307, 1370, 1650.  
Heuser, E., and G. Jayne, 76, 1317.  
Heuser, E., and W. von Neuenstein, 76, 1316, 1649.  
Heuser, E., and W. Niethammer, 1144, 1189.  
Heuser, E., and W. Ruppel, 78, 1501.  
Heuser, E., and S. Samuelsen, 1632.  
Heuser, E., R. Schmitt and L. Gunkel, 78, 1309, 1622.  
Heuser, E., and F. Schneider, 544, 1678.  
Heuser, E., and W. Schott, 1134.  
Heuser, E., and C. Skiöldebrand, 1622.  
Heuser, E., and F. Stoeckigt, 1145.  
Heuser, E., and A. Winsvold, 1175.  
Heusser, W., 1278.  
Hewitt, P., 401, 461, 462, 1856, 1892, 2540.  
Hey, K., *see* W. Koenig.  
Hayden, F. v., *see* M. v. Nencki.  
Heyl, G., 431, 1078, 2589.



- Heyl, G., and M. Greenhill, 660.  
 Heymann, E., 2182.  
 Heynert, F., and F. Lucius, 2635.  
 Heynitz, von, 462.  
 Hibbert, E., 661, 1137.  
 Hibbert, H., see R. Ball.  
 Hibbert, H., see H. Hill.  
 Hibbert, H., see E. Percival.  
 Hibbert, H., 462, 1111, 1868, 1869, 1883, 1887, 1892, 1894.  
 Hibbert, H., and J. Barsha, 1109.  
 Hibbert, H., and H. Hill, 1135.  
 Hibbert, H., and L. Marion, 232, 1628, 1629.  
 Hibbert, H., and J. Morazain, 876, 1858.  
 Hibbert, H., J. Morazain and A. Paquet, 1858.  
 Hibbert, H., and J. Parsons, 1143, 1145, 1411.  
 Hibbert, H., and J. Phillips, 232, 1629.  
 Hibbert, H., and E. I. du Pont de Nemours Powder Co., 1869.  
 Hibbert, H., and R. Tipson, 1505.  
 Hibbert, H., R. Tipson and F. Brauns, 1506.  
 Hickinbottom, W., see W. Charlton.  
 Hickinbottom, W., see W. Haworth.  
 Hickman, K., 117, 2529.  
 Hickman, K., and D. Hyndman, 800, 2564.  
 Hiemer, N., see E. Heuser.  
 Higginbotham, L., see R. Fargher.  
 Higgins, C., 462.  
 Higgins, E., 2611, 2618, 2619.  
 Higgins, S., 1148.  
 Highfield, A., 1355.  
 Hildesheimer, A., see R. Herzog.  
 Hildesheimer, A., 462, 1938.  
 Hilditch, T., see Crosfield & Sons.  
 Hilhouse, G., 2604.  
 Hill, A., see H. Hill.  
 Hill, E., see A. B. Dick Co.  
 Hill, E., 661, 1965.  
 Hill, E., and A. B. Dick Co., 2489.  
 Hill, F., see British Celanese, Ltd.  
 Hill, H., see H. Hibbert.  
 Hill, H., A. Hill and H. Hibbert, 1497.  
 Hill, J., see J. Baddiley.  
 Hill, J., see British Dyestuffs Corp., Ltd.  
 Hill, J., see R. Horsfall.  
 Hill, R., see A. Hall.  
 Hill, R., see R. Wolf.  
 Hillmer, A., see R. Herzog.  
 Himmel, R., 2618.  
 Himmen, E., see B. Helferich.  
 Hingberg, O., 330.  
 Hingst, G., see M. Hagedorn.  
 Hingst, G., see I. G. Farbenindustrie, Akt-Ges.  
 Hinshelwood, C., H. Hartley and B. Topley, 544.  
 Hirata, F., see J. Duclaux.  
 Hirsch, E., 486.  
 Hirschberger, J., 2182.  
 Hirsh, J., and A. Robson, 661, 1905, 1961.  
 Hirst, E., see J. Avery.  
 Hirst, E., see H. Bott.  
 Hirst, E., see A. Carruthers.  
 Hirst, E., see W. Haworth.  
 Hirst, E., see J. Irvine.  
 Hirst, E., 545, 1181, 1498.  
 Hirst, E., and C. Purves, 1501.  
 Hirst, E., and G. Robertson, 1498, 1499, 1504, 1506.  
 Hirst, E., and J. Smith, 1500.  
 Hirst, E., and C. Woolvin, 1509.  
 Hirst, H., see H. Golding.  
 Hirst, H., see Imperial Chemical Industries, Ltd.  
 Hirst, H., and Imperial Chemical Ind., Ltd., 661.  
 Hirzel, H., 2128.  
 Hitt, M., 1915, 1977.  
 Hixon, R., see J. Allison.  
 Hixon, R., see L. Goodhue.  
 Hobart, F., 1293.  
 Hochstetter, A., 1251.  
 Hochstetter, H. v., see K. Freudenberg.  
 Hochuli, E., see K. Dörken.  
 Hochuli, E., see Lackfabrik. E. Dörken.  
 Hockett, R., and C. Hudson, 1501, 1503.  
 Hodgson, M., 545.  
 Hoehn, F., see D. Krueger.  
 Hoehnel, R. von, 5.  
 Hoek, C. van, 1770.  
 Hoemberg, R., 333.  
 Hoemberg, R., and G. Meyer, 417.  
 Hoenig, M., and S. Schubert, 1161.  
 Hoepker, J., 190, 2314.  
 Hoering, P., 1290.  
 Hoermann, L., see A. Wacker Ges. für Elektrochem. Ind.  
 Hoermann, O., see C. Liebermann.  
 Hoessle, C. v., 1100.  
 Hoessle, C. v., and O. Schade, 1099.  
 Hoffman, A., see H. Godwin.

- Hoffman, A., 252, 1884, 1886.  
Hoffman, H., 661.  
Hoffman, H., and E. Reid, 801.  
Hoffmann, H., *see* E. Reid.  
Hoffmann, M., and A. Weinberg, 2300.  
Hofsuemmer, I., 345, 2501.  
Hofmann, H., *see* J. Park.  
Hofmann, H., and E. Reid, 2400.  
Hofmann, K., 373.  
Hofmann, R., *see*  
    I. G. Farbenind. A.-G.  
Hofmann, R., and G. Balle, 2625.  
Hogan, G., 2601, 2603.  
Hogg, T., *see* J. Irvine.  
Hogrefe, J., *see* E. Knoevenagel.  
Hoh & Co., R., 2608.  
Holde, D., 2061.  
Holden, G., *see* H. Livsey.  
Holden, G., *see*  
    J. & J. M. Worrall, Ltd.  
Holden, G., 976, 2380, 2601.  
Holken Ges. M., 2110.  
Holl, A., *see* F. Singer.  
Holliday, L. & Co., Ltd., and  
    C. Shaw, 662, 2280.  
Holliday, L. & Co., Ltd., and  
    A. Young, 662.  
Hollins, C., *see*  
    British Dyestuff Corp., Ltd.  
Hollins, C., 2663.  
Holman, B., *see* A. Burlin.  
Holman, L., *see* A. Burlin.  
Holmberg, B., 252.  
Holmberg, B., and M. Sjoberg, 252.  
Holmberg, B., and T. Wintzell, 1631.  
Holmes, F., 1563, 1564, 2621.  
Holmes Bias Fabrics, J., Ltd., and  
    J. Holmes, 1089.  
Holmes, J., *see*  
    J. Holmes Bias Fabrics, Ltd.  
Holmes, W., L. Leedham and  
    Wildt & Co., Ltd., 2383.  
Holsboer, M., *see* C. Ehrenberg.  
Holst, W., 976, 1034, 2292.  
Holt, F., *see* N. Bennett.  
Holt, H., *see* C. Coolidge.  
Holt, T., and J. Stuart, 2584.  
Holzach, K., *see*  
    I. G. Farbenindustrie.  
Holzach, K., *see* W. Mueller.  
Holzach, K., and W. Müller, 2421.  
Holzach, K., and G. v. Rosenberg, 2263.  
Holzmann, O., *see* A. Weith.  
Holzveredelung, 545.  
Holzverkohlungs-Ind. A. G., 545,  
    662, 801, 876, 976, 1035, 1251.  
Holzverkohlungs-Ind. A.-G. and  
    O. Fuchs, 662.  
Holzverkolungs-Ind. A.-G. and  
    J. Seib, 662.  
Holzwarth, C., 1100.  
Homeyer, R., *see*  
    R. VanBuggenhoudt.  
Hooker, A., 1173.  
Hooley, L., *see* W. Tatum.  
Hooley, L., 663, 2292.  
Hoop, de L., *see* S. Vles.  
Hoos, B., *see* M. Schur.  
Hope, E., 663, 2588.  
Hopff, H., *see*  
    I. G. Farbenind. A. G.  
Hopff, H., *see* K. Meyer.  
Hopkins, H., 1978, 2397.  
Hopkins, H., and F. McDermott, 1976.  
Hopkins, H., and J. Segur, 1333,  
    1852, 1943, 2410.  
Hopkins, H., and A. Tanberg, 1971.  
Hopkins, M., and C. Barnett, 2128.  
Hoppner, H., *see* A. Weber.  
Horii, S., 663, 664, 801, 976, 1493,  
    1941, 1966, 2488, 2490, 2491.  
Horn, O., *see* W. Fuchs.  
Horn, O., 664, 836.  
Hornstein, N., 2057.  
Horschler, H., *see* V. Horschler.  
Horschler, V., and H. Horschler, 2616.  
Horsfall, R., *see*  
    British Dyestuffs Corp., Ltd.  
Horsfall, R., L. Lawrie and  
    J. Henderson, 2233.  
Horsfall, R., L. Lawrie and J. Hill, 117, 2273.  
Horsley, G., 1035.  
Horsley, G., and Imperial Chemi-  
    cal Industries, Ltd., 976.  
Horst, *see* Horst-Dietrich.  
Horst-Dietrich v. d. Horst &  
    R. Wietzel, 1035.  
Hoskins, W., 664.  
Hottenroth, V., *see*  
    Zellstoffabrik Waldhof.  
Houben, J., 1286, 1290.  
Houben, J., and H. Arnold, 1290,  
    1298, 1621.  
Houck, R., *see* S. Sheppard.  
Houdard, M., and J. Vasseur, 2128.  
Hough, W., 2539.  
Hougoniot, 2663.  
Hougoniot, L., *see* M. Bouvier.

- Hovey, W.*, see *H. Reid*.  
*How, W.*, 2601.  
*Howards & Sons, Ltd.*, and  
*M. Bandli*, 802, 2440.  
*Howe, F.*, and *M. Misener*, 665,  
 2392, 2595.  
*Howland, F.*, see *W. Hatcher*.  
*Howlett, G.*, 545.  
*Hoyt, L.*, see *A. Handy*.  
*Hoyt, W.*, 2601.  
*Hoyt, W.*, and *W. Gaven*, 2601.  
*Hoz, H.*, 665.  
*Hoz, H.*, *W. Bernoulli* and *A. Link*,  
 665, 2208, 2235.  
*Hubbard, C.*, see *M. Goldman*.  
*Hubbard, L.*, 755.  
*Hubbard, L.*, and *R. Huerlick*, 802.  
*Huber, E.*, see  
*I. G. Farbenindustrie*.  
*Huber, E.*, 280, 1438, 1441.  
*Huber, O.*, see *R. Schwickert, A.-G.*  
*Hubert, E.*, see *Farbenfabriken*  
*vorm. Friedr. Bayer & Co.*  
*Hubert, E.*, see  
*I. G. Farbenind. A.-G.*  
*Hubert, E.*, see *O. Leuchs*.  
*Hubert, E.*, see *L. Lock*.  
*Hubert, E.*, 545, 1061, 1380, 2080,  
 2082.  
*Hubert, E.*, *O. Leuchs* and *L. Lock*,  
 2080.  
*Hubert, E.*, *A. Roest-Grande* and  
*E. Correns*, 876, 1409.  
*Hubert, E.*, *A. Röst-Grande* and  
*K. Weisbrod*, 2105.  
*Hubert, E.*, and *K. Weisbrod*, 1056.  
*Hubsch, M.*, see *J. Parpati*.  
*Hucks, R.*, 1972.  
*Hudson, C.*, see *R. Hockett*.  
*Hudson, C.*, 462, 1102, 1113, 1498.  
*Hudson, C.*, and *D. Brauns*, 42, 462.  
*Hudson, C.*, and *J. Dale*, 462, 686.  
*Hudson, C.*, and *J. Hudson*, 462.  
*Hudson, C.*, and *J. Johnson*, 462.  
*Hudson, J.*, see *C. Hudson*.  
*Huebner, J.*, see  
*Manchester Oxide Co.*  
*Huebner, J.*, 462, 1138, 1201, 1891,  
 2392.  
*Huebner, J.*, and *J. Gaebel*, 2076.  
*Huebner, J.*, and *F. Kaye*, 1137.  
*Huebner, J.*, and *W. Pope*, 1220.  
*Huebner, J.*, and *E. Wootton*, 1190,  
 1202.  
*Huebner, R.*, see *A. Benjamin*.  
*Huegel, A.*, 2544.  
*Huegel, A.*, and *I. G. Farbenind.*,  
 1954.  
*Huerlick, R.*, see *L. Hubbard*.  
*Huessy, P.*, and *M. Hartmann*, 1253.  
*Hugel, G.*, 546, 2258.  
*Hughes, G.*, *A. Macbeth* and  
*F. Winzor*, 1051, 1496.  
*Hugoniot, 2663*.  
*Hugoniot, L.*, see *M. Bouvier*.  
*Hull, S.*, 802.  
*Humeau, R.*, see *R. Cornubert*.  
*Humphrey, I.*, 2046, 2047.  
*Humphreys, R.*, see *J. Pryde*.  
*Humphries, H.*, see *R. Dodd*.  
*Hunt, B.*, 1276.  
*Hunt, S.*, 1278.  
*Hunter, A.*, 546, 2309.  
*Hunter, H.*, see *C. Mullin*.  
*Hurd, C.*, and *K. Martin*, 802.  
*Huss, R.*, see *H. Wagner*.  
*Husser, R.*, see *P. Scherer*.  
*Hutchinson, W.*, 2499, 2567.  
*Hutin, A.*, 665, 2544.  
*Huttinger, C.*, 1232.  
*Hyatt, I.* and *J.*, 1908.  
*Hyatt, J.*, 1772, 2388, 2472, 2537,  
 2608.  
*Hyde, J.*, see *R. Adams*.  
*Hyde, J.*, 463, 1842.  
*Hygienic Tube & Container Co.*,  
 2567.  
*Hynd, A.*, see *J. Irvine*.  
*Hyndman, D.*, see *K. Hickman*.  
*Ichenhaeuser, E.*, 403.  
*I. G. Farbenindustrie*, see *G. Balle*.  
*I. G. Farbenindustrie*, see *E. Doerr*.  
*I. G. Farbenindustrie*, see  
*W. Eckert*.  
*I. G. Farbenindustrie*, see *O. Ernst*.  
*I. G. Farbenindustrie*, see  
*F. Guhring*.  
*I. G. Farbenindustrie*, see  
*M. Hagedorn*.  
*I. G. Farbenindustrie*, see  
*A. Huegel*.  
*I. G. Farbenindustrie*, see  
*G. Knoeffler*.  
*I. G. Farbenindustrie*, see *A. Knorr*.  
*I. G. Farbenindustrie, A.-G.*, see  
*O. Leuchs*.  
*I. G. Farbenindustrie, A.-G.*, see  
*O. Loehr*.  
*I. G. Farbenind. A.-G.*, see  
*M. Paquin*.  
*I. G. Farbenindustrie, A.-G.*, see  
*E. Pfeffer*.

- I. G. Farbenindustrie, A. G., see A. Schmidt.*
- I. G. Farbenind., see C. Schoenburg.*
- I. G. Farbenindustrie, see E. Schwabe.*
- I. G. Farbenindustrie, A.-G.,* 117, 118, 119, 120, 121, 122, 123, 131, 149, 151, 152, 153, 154, 155, 156, 157, 158, 168, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 232, 233, 234, 235, 236, 237, 238, 239, 240, 243, 244, 253, 254, 280, 281, 282, 283, 284, 285, 291, 305, 548, 656, 665, 666, 667, 668, 669, 670, 671, 672, 673, 675, 676, 708, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 821, 876, 877, 878, 879, 880, 881, 882, 977, 978, 979, 980, 981, 982, 983, 1035, 1036, 1049, 1050, 1055, 1059, 1060, 1061, 1064, 1065, 1069, 1070, 1071, 1078, 1080, 1081, 1084, 1085, 1086, 1089, 1093, 1170, 1171, 1181, 1224, 1230, 1236, 1245, 1251, 1268, 1340, 1341, 1347, 1349, 1357, 1375, 1376, 1378, 1379, 1385, 1397, 1398, 1399, 1400, 1401, 1402, 1407, 1411, 1434, 1451, 1460, 1462, 1463, 1482, 1484, 1489, 1492, 1494, 1495, 1520, 1535, 1540, 1564, 1567, 1571, 1573, 1574, 1576, 1577, 1580, 1581, 1585, 1590, 1592, 1601, 1602, 1603, 1605, 1607, 1609, 1610, 1611, 1612, 1614, 1617, 1625, 1626, 1637, 1651, 1654, 1657, 1658, 1659, 1664, 1665, 1666, 1668, 1669, 1670, 1671, 1676, 1677, 1678, 1679, 1682, 1687, 1688, 1696, 1708, 1709, 1711, 1712, 1714, 1716, 1717, 1718, 1719, 1720, 1730, 1739, 1741, 1754, 1756, 1757, 1797, 1798, 1800, 1802, 1810, 1812, 1816, 1823, 1939, 1840, 1848, 1850, 1851, 1853, 1854, 1855, 1856, 1858, 1875, 1876, 1877, 1878, 1885, 1897, 1899, 1901, 1902, 1905, 1906, 1911, 1912, 1919, 1921, 1925, 1954, 1966, 1969, 1970, 1971, 1972, 1977, 1978, 1986, 1988, 1990, 1993, 2006, 2023, 2035, 2047, 2053, 2054, 2055, 2076, 2079, 2080, 2086, 2094, 2095, 2096, 2103, 2105, 2106, 2118, 2119, 2125, 2137, 2138, 2155, 2158, 2159, 2160, 2184, 2202, 2214, 2215, 2216, 2217, 2220, 2221, 2224, 2229, 2235, 2239, 2241, 2245, 2246, 2247, 2248, 2256, 2260, 2283, 2285, 2295, 2301, 2303, 2306, 2310, 2311, 2312, 2319, 2324, 2326, 2329, 2330, 2350, 2354, 2365, 2373, 2385, 2386, 2398, 2399, 2400, 2416, 2417, 2418, 2419, 2420, 2422, 2423, 2424, 2425, 2426, 2432, 2441, 2449, 2451, 2453, 2454, 2455, 2456, 2457, 2461, 2478, 2479, 2484, 2503, 2505, 2507, 2521, 2523, 2529, 2531, 2535, 2539, 2545, 2546, 2547, 2551, 2552, 2554, 2564, 2565, 2575, 2576, 2577, 2578, 2579, 2587, 2590, 2595, 2598, 2624, 2625, 2629, 2634, 2637, 2643.
- I. G. Farbenind., A. G., A. Aured-nicek, E. Keiner and R. Krech,* 547.
- I. G. Farbenindustrie, G. Balle and K. Ost,* 287.
- I. G. Farbenindustrie, G. Balle and K. Sponsel,* 285, 288, 289, 1652.
- I. G. Farbenindustrie, A.-G., F. Baumann, H. Friedrich and L. Zeh,* 676.
- I. G. Farbenindustrie, A. Baumert and R. Fischer,* 286.
- I. G. Farbenind., A.-G., and F. Becker,* 979, 980.
- I. G. Farbenind. A.-G., C. Ebert and T. Becker,* 978.
- I. G. Farbenind. A. G., H. Eichwede, E. Fischer and C. Müller,* 547.
- I. G. Farbenindustrie A.-G., O. Eisenhut and A. Auerhahn,* 671.
- I. G. Farbenindustrie, O. Ernst, G. Balle and K. Sponsel,* 288, 1436.
- I. G. Farbenindustrie, O. Ernst and K. Sponsel,* 286, 978, 2138.
- I. G. Farbenindustrie, A.-G., and A. Fischesser,* 674, 880, 881.
- I. G. Farbenindustrie, K. Franz and C. Dankert,* 286.
- I. G. Farbenindustrie and F. Günther,* 1731.
- I. G. Farbenind., A.-G., A. Gundlach and T. Becker,* 882.
- I. G. Farbenindustrie and M. Hagedorn,* 286, 290, 880, 1656, 1657.
- I. G. Farbenindustrie, M. Hagedorn and H. Gensel,* 286.
- I. G. Farbenindustrie, Akt-Ges., M. Hagedorn and G. Hingst,* 879, 882, 1708.
- I. G. Farbenindustrie, Akt-Ges., M. Hagedorn and P. Moeller,* 877, 979.
- I. G. Farbenind., A.-G., M. Hagedorn and O. Reichert,* 981.

- I. G. Farbenindustrie, M. Hagedorn, O. Reichert and E. Guehring, 1654, 1712.
- I. G. Farbenindustrie, M. Hagedorn and E. Rossbach, 289, 1612.
- I. G. Farbenind., A.-G., and H. Hartlein, 882.
- I. G. Farbenindustrie and H. Henecka, 289, 2094.
- I. G. Farbenind., A.-G., and R. Hofmann, 978.
- I. G. Farbenindustrie, K. Holzach and W. Mueller, 290.
- I. G. Farbenindustrie and E. Huber, 289.
- I. G. Farbenind. A. G., E. Hubert, O. Leuchs and L. Lock, 548.
- I. G. Farbenindustrie, A.-G., E. Hubert, L. Lock and O. Leuchs, 670.
- I. G. Farbenind., A.-G., E. Hubert, A. Roest-Grande and K. Weisbrod, 981.
- I. G. Farbenindustrie, A.-G., and H. Jochheim, 976.
- I. G. Farbenindustrie and A. Kaempff, 286.
- I. G. Farbenind. A. G., H. Kessler and E. Döring, 547.
- I. G. Farbenindustrie, A.-G., A. Kiesewetter and E. Franz, 673.
- I. G. Farbenindustrie, W. Kirst and P. Sommer, 287.
- I. G. Farbenind., A.-G., and R. Kuhn, 983.
- I. G. Farbenindustrie, A.-G., H. Lange and O. Ernst, 1865.
- I. G. Farbenind. A.-G., and L. Lock, 979.
- I. G. Farbenindustrie A.-F., M. Luther and H. Soenksen, 671.
- I. G. Farbenind., A.-G., and H. Mark, 980.
- I. G. Farbenind. A. G. and R. Metzger, 547, 548, 671, 672.
- I. G. Farbenind. A. G., R. Metzger and C. Schuster, 546.
- I. G. Farbenind. A. G., K. Meyer and H. Hopff, 546.
- I. G. Farbenindustrie, A.-G., K. Meyer, H. Hopff and A. Guenther, 879.
- I. G. Farbenind. A. G., E. Müller and A. Schaeffer, 547, 672, 2229.
- I. G. Farbenindustrie, W. Mueller, K. Holzach and H. Krzikalla, 285, 1586.
- I. G. Farbenind., A.-G., M. Mueller-Cunradi and K. Pierch, 983.
- I. G. Farbenind., A.-G., P. Nawiaszky and O. Chrzesinski, 983.
- I. G. Farbenindustrie, P. Nawiaszky and A. Krause, 290.
- I. G. Farbenindustrie and C. Neubauer, 289.
- I. G. Farbenind., A.-G., K. Ott and H. Schuessler, 980.
- I. G. Farbenindustrie, A.-G., and A. Peters, 2311.
- I. G. Farbenindustrie and E. Pfeffer, 290.
- I. G. Farbenindustrie, E. Pfeffer and E. Fischer, 288.
- I. G. Farbenindustrie, G. Poetzsch and H. Jaeger, 285, 1593.
- I. G. Farbenindustrie, A.-G., and P. Rabe, 672.
- I. G. Farbenindustrie, A.-G., P. Rabe, H. Stoetter, B. Wenk and W. Schepss, 675.
- I. G. Farbenind., A.-G., and E. Richter, 983.
- I. G. Farbenindustrie, A.-G., E. Richter, M. Hagedorn and W. Becker, 883, 983.
- I. G. Farbenindustrie, F. Risse and E. Fischer, 287.
- I. G. Farbenind. A. G., and L. Rosenthal, 547.
- I. G. Farbenindustrie, L. Rosenthal and R. Hebermehl, 288.
- I. G. Farbenind., L. Rosenthal, E. Messmer and R. Hebermehl, 1586.
- I. G. Farbenindustrie, W. Schieber, H. Pfannenstiel and H. Mahn, 285, 1593.
- I. G. Farbenindustrie, H. Schladebach and H. Haehle, 1718.
- I. G. Farbenindustrie, A. Schmidt and E. Pfeffer, 285.
- I. G. Farbenindustrie, A.-G., and K. Schmidt, 673.
- I. G. Farbenindustrie A.-G. and E. Schnabel, 671.
- I. G. Farbenindustrie, A.-G., and A. Schneevogt, 672.
- I. G. Farbenind., A.-G., and C. Schonburg, 981.
- I. G. Farbenindustrie Akt-Ges., G. Schwaebel and F. Schleicher, 668, 977.
- I. G. Farbenind., A.-G., W. Seidel and A. Ernecke, 981.
- I. G. Farbenindustrie, A.-G., O.

- Spengler and W. Mueller, 674, 675.
- I. G. Farbenindustrie, K. Sponsel and G. Balle, 285, 288, 1593.
- I. G. Farbenind., A.-G., H. Suida and H. Titsch, 980.
- I. G. Farbenindustrie and E. Teupel, 287, 290, 1591, 1601, 1626, 1653.
- I. G. Farbenindustrie, A.-G., W. Walter, R. Hofmann and F. Oschatz, 1060.
- I. G. Farbenindustrie, A.-G., and F. Weber, 673.
- Igi, S., 548.
- Ilford, Ltd., *see* G. Whitfield.
- Immerheiser, C., and E. Knebel, 291, 1852, 2399, 2572.
- Immerheiser, C., C. Neubauer and E. Scharf, 596.
- Imperial Chemical Industries, Ltd., *see* N. Bennett.
- Imperial Chemical Industries, Ltd., *see* G. Davies.
- Imperial Chemical Industries, Ltd., *see* W. Dickson.
- Imperial Chemical Industries, Ltd., *see* T. Ewan.
- Imperial Chemical Industries, Ltd., *see* H. Golding.
- Imperial Chemical Industries, Ltd., *see* F. Griffiths.
- Imperial Chemical Ind., Ltd., *see* H. Hirst.
- Imperial Chemical Industries, Ltd., *see* G. Horsley.
- Imperial Chemical Industries, Ltd., *see* W. Jenkins.
- Imperial Chemical Industries, Ltd., *see* W. Lawson.
- Imperial Chemical Industries, Ltd., *see* A. Levesley.
- Imperial Chemical Industries, *see* J. Payman.
- Imperial Chemical Industries, Ltd., *see* R. Riley.
- Imperial Chemical Industries, Ltd., *see* S. Rowell.
- Imperial Chemical Industries, Ltd., *see* C. Tanner.
- Imperial Chemical Industries, Ltd., *see* D. Traill.
- Imperial Chemical Industries, Ltd., 158, 201, 202, 203, 291, 305, 883, 971, 984, 1035, 1081, 1231, 1352, 1361, 1389, 1441, 1535, 1542, 1545, 1560, 1568, 1871, 1901, 1914, 1941, 1945, 1961, 1976, 1983, 1988, 2016, 2056, 2206, 2220, 2278, 2462, 2470, 2483, 2568, 2579.
- Imperial Chem. Industries, Ltd., H. Briggs and R. Hardacre, 1086.
- Imperial Chemical Industries, Ltd., and R. Brightman, 883, 2259.
- Imperial Chemical Industries, Ltd., and H. Bunbury, 984.
- Imperial Chemical Industries, Ltd., A. Coulthard and E. Rodd, 2287.
- Imperial Chemical Industries, Ltd., and A. Davidson, 201.
- Imperial Chemical Industries, Ltd., and B. Foster, 244, 291, 1852, 1905, 1970, 2579.
- Imperial Chemical Industries, Ltd., and F. Hahn, 803.
- Imperial Chemical Industries, Ltd., A. Hailwood and A. Stewart, 2202.
- Imperial Chemical Industries, Ltd., H. Hepworth and F. Leicester, 883.
- Imperial Chemical Industries, Ltd., D. Jones, R. Thomson and J. Thomas, 2641.
- Imperial Chemical Industries, Ltd., and W. Lawson, 1875, 2216.
- Imperial Chemical Industries, Ltd., and F. Leicester, 883.
- Imperial Chemical Industries, Ltd., and A. Levesley, 292, 2623.
- Imperial Chemical Industries, Ltd., A. Levesley and F. Randall, 1546.
- Imperial Chemical Industries, Ltd., F. Lodge and W. Tatum, 2224.
- Imperial Chemical Industries, Ltd., S. Rowell and H. Hirst, 802.
- Imperial Chemical Industries, Ltd., A. Shepherdson and L. Smith, 244, 254, 292, 2278, 2322, 2324.
- Imperial Chemical Industries, A. Shepherdson and W. Tatum, 202, 2278.
- Imperial Chemical Industries, Ltd., S. Thornley and A. Twemlow, 306, 2294.
- Imperial Chemical Industries, Ltd., and D. Traill, 245.
- Imperial Chemical Industries, Ltd., D. Traill and A. Levesley, 306, 1558, 1588.
- Imperial Chem. Industries, Ltd., F. Walker and A. Hetherington, 1579, 2437.
- Imperial Chem. Industries, Ltd., B.

- Wylam and J. Wilson, 1086.  
 Imperial Chemical Industries, Ltd.,  
 and M. Wyler, 245, 1347, 2296.  
 Industrial Alcohol Co., 1873.  
*Inoue, T.*, see *S. Komatsu*.  
*Inouye, J.*, 1927.  
*Inoxi (S. A. R.)*, 2334.  
 Internationale Celluloseester Ge-  
 sellschaft, 41, 368, 385, 386, 387,  
 388, 417, 421, 463, 1799, 1860,  
 1867, 1927.  
*Introini, I. de*, 822, 2397.  
*Inubushi, M.*, see *Y. Kami*.  
*Ipatiev, V.*, and I. Orlov, 79.  
*Ipatiew, W.*, 1255.  
*Irvine, J.*, see *W. Haworth*.  
*Irvine, J.*, see *T. Purdie*.  
*Irvine, J.*, 72, 79, 1312, 1320, 1480,  
 1487, 1502, 1505, 1506.  
*Irvine, J.*, and A. Cameron, 42,  
 1502.  
*Irvine, J.*, W. Denham and E. Hirst,  
 37, 1111, 1305, 1506.  
*Irvine, J.*, and J. Dick, 1499, 1509.  
*Irvine, J.*, and G. Francis, 79.  
*Irvine, J.*, A. Fyfe and T. Hogg,  
 33, 42, 43, 1504, 1509.  
*Irvine, J.*, and H. Gilchrist, 79,  
 1503, 1507, 1508.  
*Irvine, J.*, and R. Gilmour, 1503.  
*Irvine, J.*, and W. Haworth, 548.  
*Irvine, J.*, and E. Hirst, 72, 79,  
 1111, 1127, 1128, 1180, 1181, 1309,  
 1508.  
*Irvine, J.*, and T. Hogg, 31, 1508.  
*Irvine, J.*, and A. Hynd, 1497, 1505,  
 1507.  
*Irvine, J.*, and J. MacDonald, 123,  
 1476, 1478, 1495.  
*Irvine, J.*, J. MacDonald and  
 C. Soutar, 1497.  
*Irvine, J.*, and R. McGlynn, 1510.  
*Irvine, J.*, and A. Moodie, 42, 1503,  
 1509.  
*Irvine, J.*, and J. Oldham, 1502,  
 1509.  
*Irvine, J.*, and B. Paterson, 1504,  
 1505.  
*Irvine, J.*, and J. Patterson, 1497,  
 1498, 1506.  
*Irvine, J.*, and G. Robertson, 116,  
 1507, 1510.  
*Irvine, J.*, and R. Rose, 42.  
*Irvine, J.*, and J. Rutherford, 1509.  
*Irvine, J.*, and J. Scott, 1507, 1509.  
*Irvine, J.*, and A. Skinner, 1503.  
*Irvine, J.*, and E. Steele, 81, 1160.  
*Irvine, J.*, E. Steele and M. Shan-  
 non, 1160, 1505.  
*Irvine, J.*, and J. Stevenson, 1159,  
 1505.  
*Irvine, J.*, and E. Stiller, 1510.  
*Ishii, N.*, see *K. Atsuki*.  
*Ishii, N.*, 984, 1791.  
*Itane, S.*, 2611, 2616.  
*Itasse, G.*, 2045.  
*Iwasaki, S.*, 984.  
*Iwasaki, S.*, and S. Masuda, 883.  
*Iwasaki, T.*, and K. Hagiwara, 677.  
  
*Jaboulay, H.*, 1583.  
*Jack, G.*, see *L. Seidell*.  
*Jacob, C.*, 1858, 1859.  
*Jacobi, W.*, and G. Merling, 1291.  
*Jacobsen, O.*, 942.  
*Jacobsohn, I.*, 203.  
*Jacobsohn, I.*, and S. Truscott, 2483,  
 2486.  
*Jacobson, J.*, 2618.  
*Jacoby, M.*, 1619.  
*Jacoby, R.*, 677.  
*Jacquet, 2662*.  
*Jacquet, A.*, 421, 480.  
*Jacquiu, 2612*.  
*Jaack, O.*, 2314.  
*Jaack, O.*, and F. Schuetz, 985.  
*Jaack, W.*, see *F. Felix*.  
*Jaack, W.*, 677.  
*Jaack, W.*, and F. Felix, 717, 2209.  
*Jaack, W.*, and J. Lang, 2208.  
*Jaeger, A.*, see *J. D'Ans*.  
*Jaeger, A.*, 2630, 2645.  
*Jaeger, H.*, see  
*I. G. Farbenindustrie*.  
*Jaehn, F.*, 1036.  
*Jagla, E.*, see *K. Hess*.  
*Jahoda, R.*, and L. Lilienfeld, 2541.  
*Jaillard, B.*, 463, 549, 1910.  
*Jakimanskij, W.*, see *S. Fotjew*.  
*Jakowa-Mertui, G.*, and J. Poggioli,  
 677.  
*Jaks, E.*, 884, 2619.  
*Jaloustre, L.*, see *T. Tesse*.  
*James, H.*, 2601.  
*Jancke, W.*, see *R. Herzog*.  
*Jancke, W.*, 677.  
*Jannin, 2537*.  
*Jaquet, 2662*.  
*Jardin, 1036*.  
*Jardin, L.*, 1233.  
*Jaresch, J.*, see *M. Jeschek*.  
*Jarmain, G.*, see *E. Chambers*.  
*Jarvis, J.*, 549, 1807, 2044.

- Jasset, E., C. Bernadac and F. Kowachiche, 2611, 2618.  
 Jayme, C., 1062.  
 Jayne, G., *see* E. Heuser.  
 Jeanmaire, P., 1139.  
 Jeanpretre, P., 2142.  
 Jeffray, J., 884, 2588.  
 Jellicoe, R., *see* C. King.  
 Jellinek, B., 549.  
 Jenett, M., and M. List, 463, 2392.  
 Jenkins, S., *see* W. Ermen.  
 Jenkins, W., *see*  
     *Canadian Industries, Ltd.*  
 Jenkins, W., *see* G. Davies.  
 Jenkins, W., *see* J. Payman.  
 Jenkins, W., 1945, 1988.  
 Jenkins, W., and Imperial Chemical Industries, Ltd., 803, 883, 1802, 1848, 1904, 1933, 1934, 1946.  
 Jenks, R., *see* C. Cross.  
 Jennison, C., *see* B. Wolcott.  
 Jensen, H., *see* K. Hess.  
 Jentgen, H., 1244.  
 Jeschek, M., and J. Jaresch, 2003.  
 Jeurling, S., *see* R. Norman.  
 Jockheim, H., *see*  
     I. G. Farbenindustrie, A.-G.  
 Jodrey, E., 803, 2441.  
 Joergensen, J., 159.  
 Johlin, J., 1871.  
 John, R., 2499.  
 Johns, C., *see* W. Clough.  
 Johns, C., *see* D. Grant.  
 Johns, E., 803, 884.  
 Johnson & Johnson, 1098.  
 Johnson, A., 803, 2595.  
 Johnson, E., *see*  
     *British Celanese, Ltd.*  
 Johnson, E., *see* P. King.  
 Johnson, F., *see* J. Walker.  
 Johnson, J., *see* C. Hudson.  
 Johnson, T., and H. Guest, 1264.  
 Johnston, A., *see* R. Glazebrook.  
 Johnston, A., 549, 884, 1955.  
 Johnston, J., 1809.  
 Johnston, W., *see*  
     *Acetex Safety Glass, Ltd.*  
 Joliot, P., 158.  
 Jones, A., 1885, 2645.  
 Jones, C., and H. Buc, 1820.  
 Jones, D., *see* W. Haworth.  
 Jones, D., *see* Imperial Chemical Industries, Ltd.  
 Jones, D., 677.  
 Jones, D., and H. Betts, 677.  
 Jones, E., *see* Alloy Welding Processes, Ltd.  
 Jones, F., *see* Columbia Graphophone Co., Ltd.  
 Jones, F., *see* W. Forse.  
 Jones, F., 678, 2004, 2604, 2605.  
 Jones, G., 1253.  
 Jones, J., 2601.  
 Jones, R., *see* Breda-Visada, Ltd.  
 Jones, R., 804, 2565, 2606.  
 Jones, W., 464.  
 Jong, J. de, 2616.  
 Joos, B., *see* P. Karrer.  
 Jordan, E., 2195.  
 Jordan, O., *see* O. Drossbach.  
 Jordan, O., 241, 1855, 1916.  
 Jorgensen, J., 1568.  
 Jorre, 678.  
 Josephson, K., 1500.  
 Joyner, R., 1200, 1201, 1531.  
 Jtg., 678.  
 Judson, H., 2059.  
 Juer, G., *see* E. Bindschedler.  
 Juer, G., *see*  
     *Tubize Artificial Silk Co.*  
 Jung, A., *see* M. Hagedorn.  
 Jung, A., *see* F. Russell.  
 Jungfer, 464.  
 Junghans, M., 2616.  
 Jurling, J., *see* *Fabriek van Chemische Production.*  
 Jurling, J., 804.  
 Justin-Mueller, 893.  
 Justin-Mueller, E., 1134.  
 Kaempf, A., *see*  
     I. G. Farbenindustrie.  
 Kaiser, W., 2602.  
 Kalb, L., *see* R. Willstaetter.  
 Kalb, L., and T. Lieser, 1175.  
 Kalb, L., T. Lieser, R. Hahn, F. Nevely and H. Koch, 1630.  
 Kali-Chemie, A. G., and W. Lambrecht, 2479.  
 Kalischer, G., and O. Bayer, 1686.  
 Kalle & Co., *see* M. Schmidt.  
 Kalle & Co., 66, 159, 737, 804, 884, 1086, 1092, 1942, 2240, 2552, 2636, 2641.  
 Kalle & Co., A.-G., and A. Dulitz, 678, 2552.  
 Kami, Y., 804, 2136.  
 Kami, Y., M. Inubushi and K. Kitazawa, 884.  
 Kami, Y., K. Kitazawa and T. Yamashita, 1214.  
 Kami, Y., and T. Yamashita, 1195.  
 Kamm, O., and C. Marvel, 1291.



- Kampf, A., 1076, 1233, 1240.  
 Kanamaru, K., 985, 1150.  
 Kanis, A., 2567.  
 Kanno, G., *see* G. Kita.  
 Kantor Chemischer Preparate  
 Ernst Alexander, 1965.  
 Kapff, von S., 362.  
 Kardos, M., and P. Nawiaskey, 1264.  
 Karpati, J., and M. Hubsch, 678.  
 Karpen, S., & Bros., 549, 1252.  
 Karplus, H., 679, 804, 884, 1618,  
 2368.  
 Karrer, 920.  
 Karrer, E., *see* E. Berl.  
 Karrer, P., 80, 81, 253, 549, 700,  
 985, 1106, 1143, 1145, 1157, 1163,  
 1188, 1200, 1309, 1471, 1474, 1495,  
 1753.  
 Karrer, P., and W. Fioroni, 1111,  
 1158, 1318.  
 Karrer, P., and B. Joos, 550, 1161.  
 Karrer, P., B. Joos and M. Staub,  
 1162.  
 Karrer, P., and E. von Krauss, 885,  
 1154, 1492, 1493.  
 Karrer, P., and S. Kwong, 1757.  
 Karrer, P., and L. Lang, 81, 1159.  
 Karrer, P., and T. Lieser, 127, 1143,  
 1309.  
 Karrer, P., and C. Naegeli, 591.  
 Karrer, P., and C. Nageli, 81, 1106,  
 1472.  
 Karrer, P., and K. Nishida, 81,  
 1164, 1188.  
 Karrer, P., and J. Peyer, 1510.  
 Karrer, P., J. Peyer and Z. Zega,  
 550, 1706.  
 Karrer, P., and A. Smirnoff, 1111.  
 Karrer, P., and M. Staub, 1162.  
 Karrer, P., and M. and J. Staub,  
 1161, 1162.  
 Karrer, P., M. Staub, A. Wein-  
 hagen and B. Joos, 81, 1162.  
 Karrer, P., and W. Wehrli, 123,  
 253, 1596, 1751, 1757.  
 Karrer, P., and F. Widmer, 80,  
 1110, 1126.  
 Karrer, P., and Z. Zega, 550, 1159,  
 1495.  
 Kartaschoff, V., 679.  
 Kartaschoff, V., and G. Farine, 679.  
 Kartaschov, V., 755.  
 Kartaschov, V., and G. Farine, 755.  
 Kasten, E., *see* H. Pringsheim.  
 Katayama, F., *see* H. Ost.  
 Katayama, T., *see* H. Ost.  
 Katayama, T., 1190.  
 Kathol, J., 1045.  
 Kato, J., *see* G. Kita.  
 Katscher, E., *see* K. Fuchs.  
 Katz, E., 2465.  
 Katz, J., *see* H. Pringsheim.  
 Katz, J., *see* C. Trogus.  
 Katz, J., *see* G. Whitby.  
 Katz, J., 1191, 1202, 1215, 1216,  
 1217, 1218, 1356.  
 Katz, J., and J. Derksen, 985.  
 Katz, J., and K. Hess, 1179.  
 Katz, J., and H. Mark, 1216.  
 Katz, J., and P. Samwel, 159, 1118,  
 1318, 1367.  
 Katz, J., and A. Weidinger, 1050.  
 Kaufler, F., *see* L. Harmann.  
 Kaufler, F., and A. Wacker Ges.  
 Ind., 550.  
 Kaufman, W. v., and A. Lewite,  
 1619.  
 Kaumagraph Co., *see* W. Lawrence.  
 Kaumagraph Co., 246, 1568, 2549.  
 Kawashima, F., 550.  
 Kawashma, K., 2485.  
 Kay, G., *see* J. Bain.  
 Kay, H., 679.  
 Kaye, F., *see* J. Huebner.  
 Keating, J., 1918.  
 Keats, J., 1944.  
 Keenan, R., *see* S. Sheppard.  
 Keenan, R., 805.  
 Kegel, M. de, 2618.  
 Kehrmann, F., and E. Bauer, 928.  
 Kehrmann, F., A. Oulevay and  
 F. Regis, 1085.  
 Keil, G., and K. Plischke, 2616.  
 Keiner, E., *see* A. Aurednicek.  
 Keiner, E., *see*  
 I. G. Farbenind. A. G.  
 Keinle, R., and W. Scheiber, 1077.  
 Keller, A., 885, 986, 1093.  
 Kemmerich, W., 885, 2322.  
 Kemp, W., 464.  
 Kendall, A., and C. Gross, 1505.  
 Kennedy, A., 2053.  
 Kepner, B., 2057.  
 Keppler, H., *see* P. Brigl.  
 Kerb, J., 1509.  
 Kereszty, G. v., and E. Wolf, 1286.  
 Kershaw, W., *see*  
 Bleachers' Assoc., Ltd.  
 Kershaw, W., *see* C. Parker.  
 Kershaw, W., F. Barrett and  
 Bleacher's Assoc., Ltd., 1150.  
 Kerstjens, A., *see* J. Boeseken.  
 Kerth, M., and E. Pfeffer, 805.  
 Kesseler, H., *see*

- I. G. Farbenind. A.-G.*  
 Kesseler, H., and E. Döring, 2214.  
 Kessler, J., 464, 550, 551, 679, 1869, 1910, 1923, 1939, 1963, 2026, 2027.  
 Kessler, J., and O. Helfrich, 1847, 1940.  
 Kessler, J., and V. Sease, 551.  
 Ketoid Co., 680.  
 Ketschendorfer Kunstlederfabrik A. G., 551, 2544.  
 Keyes, D., 1068, 1770, 1856, 1858, 1871, 1873, 1897, 1950, 1954.  
 Keyworth, C., *see Calico Printers' Assoc., Ltd.*  
 Keyworth, C., 680, 2223.  
 Khittl, F., 423.  
 Kidd, J., *see J. Briggs.*  
 Kidd, J., *see British Celanese, Ltd.*  
 Kiefer, E., 254, 2442.  
 Kienle, R., 2637.  
 Kienle, R., and L. Adams, 1970.  
 Kiermayer, J., 1134.  
 Kieseewetter, A., *see I. G. Farbenindustrie, A.-G.*  
 Kikuchi, S., 915.  
 Kilby, W., and Morton Sundour Fabrics, Ltd., 551, 2279.  
 Killeffer, D., 680.  
 Kilpatrick, M., 680.  
 Kilpi, S., 1271.  
 Kimpflin, G., 2403.  
 Kincaid, C., 1931.  
 Kind, W., 1178.  
 King, A., and F. Mason, 1875.  
 King, C., and R. Jellicoe, 2059.  
 King, G., and R. Threefall, 1982.  
 King, P., 551, 680, 886, 2506.  
 King, P., and E. Johnson, 680.  
 King, P., and A. Sahasranam, 886, 2153.  
 King, T., 681.  
 Kingscote, E., and P. Square, 2056.  
 Kinon, H., 2584.  
 Kinsella, E., *see British Celanese, Ltd.*  
 Kinsella, E., *see H. Dreyfus.*  
 Kippenberger, G., 464.  
 Kirchner, J., 915.  
 Kirk, E., *see British Celanese, Ltd.*  
 Kirk, E., *see G. Ellis.*  
 Kirk, J., *see J. Bedford.*  
 Kirk, W., *see British Celanese, Ltd.*  
 Kirst, W., and P. Sommer, 2263.  
 Kirkberger, L., 681.  
 Kirklees, Ltd., A. Bennet and W. Tong, 2182.  
 Kirner, W., *see J. Conant.*  
 Kirst, W., *see I. G. Farbenindustrie.*  
 Kirst, W., *see M. Putnam.*  
 Kirst, W., 1843.  
 Kishi, K., 1358.  
 Kishida, K., 805.  
 Kislitzuin, S., 1165.  
 Kita, G., 1202.  
 Kita, G., K. Asami, J. Kato and R. Tomihisa, 551.  
 Kita, G., and G. Kanno, 2501.  
 Kita, G., G. Kanno, T. Uematsu and S. Masuda, 681.  
 Kita, G., T. Mazume, T. Nagashima and I. Sakurada, 1202, 1735.  
 Kita, G., T. Mazume, T. Nakashima and I. Sakurada, 124, 681, 1706.  
 Kita, G., T. Mazume, I. Sakurada and T. Nakashima, 1707.  
 Kita, G., T. Mazume, I. Sakurada and S. Nakajima, 1707.  
 Kita, G., T. Mazume, I. Sakurada and T. Nakashima, 682.  
 Kita, G., T. Nakashima and I. Sakurada, 124, 682, 683, 1707.  
 Kita, G., J. Sakurada, T. Mazume and T. Nakashima, 681.  
 Kita, C., and I. Sakurada, 1209, 1213.  
 Kita, G., I. Sakurada and T. Nakashima, 682, 1683, 1879.  
 Kita, G., R. Tomihisa and J. Onohara, 1209.  
 Kita, G., R. Tomihisa, K. Sakurada and H. Kono, 1244.  
 Kitazawa, K., *see Y. Kami.*  
 Kitsee, I., 2602.  
 Kittelsen, E., *see T. Kittelsen.*  
 Kittelsen, T. and E., 1182.  
 Klaber, A., 2498.  
 Klages, 965.  
 Klages, F., *see K. Hess.*  
 Klages, F., 1131, 1146.  
 Klason, P., 252, 277, 1132, 1174, 1622, 1632.  
 Klason, P., and O. Fagerlind, 252.  
 Klason, P., G. v. Heidenstam and E. Norlin, 1133.  
 Klatte, F., 1922.  
 Klatte, F., and A. Rollett, 464, 1816, 1824, 1994.  
 Klausner, S., Cellon Werke and A. Eichengruen, 203, 2609.  
 Klausner, S., A. Eichengruen and R. Roehm, 292, 2609.  
 Klaye, R., *see F. Berl.*  
 Kldiaschwili, A., 1491.

- Kldiaschwili, A., and J. Traquair, 1490.  
*Klein, F., see H. Ost.*  
 Klein, F., 204, 357, 372, 418, 1412, 1537, 2403.  
 Klein, M., 159, 204, 805, 2112, 2113.  
 Kleinsteuber, F., 2607.  
*Klemenc, A., see R. Wegscheider.*  
 Klemenc, A., and E. Edhofer, 1265.  
 Klemm, K., and L. Friedman, 1052, 1067.  
 Klenk, E., and R. Härle, 1502.  
*Kline, A., see C. Dreyfus.*  
*Klingstedt, F., see E. Haegglund.*  
 Klinkenstein, G., 2431.  
*Knaffl-Lenz, E., see Z. Skraup.*  
*Knauss, C., see H. Gardner.*  
 Knauss, C., 146.  
*Knebel, E., see C. Immerheiser.*  
 Knecht, E., 3, 683, 1137, 1139.  
 Knecht, E., and J. Egan, 1143.  
 Knecht, E., and W. Hall, 1148.  
 Knecht, E., and W. Harrison, 1220.  
 Knecht, E., and E. Mueller, 1143.  
 Knecht, E., and J. Platt, 1190, 1193.  
 Knecht, E., and F. Thompson, 615.  
 Knecht, O., 805, 806, 2252.  
 Knecht, O., and E. Stocker, 2168.  
*Knehe, E., see M. Bergmann.*  
*Knoche, R., see W. Hentrich.*  
 Knoeffler, G., 2408, 2415.  
 Knoeffler, G., and I. G. Farben-industrie, 1573.  
 Knoevenagel, 797, 813.  
 Knoevenagel, E., 351, 360, 372, 379, 405, 420, 433, 466, 552, 553, 1814, 1858, 1886, 2025, 2282.  
 Knoevenagel, E., and A. Bregenzer, 553.  
 Knoevenagel, E., and H. Busch, 76, 553, 1134, 1144, 1188, 1316, 1678, 1733.  
 Knoevenagel, E., and O. Eberstadt, 553.  
 Knoevenagel, E., J. Hogrefe and F. Mertens, 553.  
 Knoevenagel, E., and K. Koenig, 554.  
 Knoevenagel, E., and H. Lebach, 354, 1697.  
 Knoevenagel, E., and R. Motz, 554.  
 Knoll & Co., 41, 350, 354, 355, 359, 360, 368, 375, 377, 384, 394, 396, 400, 412, 420, 465, 466, 554, 1263, 1297, 1682, 1697, 1908, 1927, 1957, 2237, 2384.  
*Knoll, W., see H. Pringsheim.*  
 Knorr, A., 119, 124, 1876, 1986.  
 Knorr, A., and I. G. Farben-industrie, 1876.  
*Knorr, E., see W. Koenig.*  
 Knorr, L., and H. Weyland, 1562.  
 Kobe, K., and R. Montonna, 986, 1729.  
 Kober, G., and E. Hayhurst, 1266.  
*Koch, F., see M. Bergmann.*  
*Koch, H., see L. Kalb.*  
*Koch, O., see H. Decker.*  
 Koch, T., 2186.  
 Kocher, N., 81, 1348, 2512.  
 Kocher, R., 683.  
*Kocker, N., see E. Farrow.*  
 Kocsis, J., 986.  
 Kodak, A.-G., 1061, 1063.  
 Kodak, Ltd., 160, 886, 987, 988.  
 Kodak, Ltd., H. Clarke, C. Malm and R. Stinchfield, 1716.  
 Kodak, Ltd., and R. Crowther, 2533.  
 Kodak, Ltd., and Eastman Kodak Co., 987.  
 Kodak, Ltd., S. Sheppard and C. Beal, 128.  
 Kodak, Ltd., C. Webber and C. Staud, 886.  
*Kodak-Pathe, see also Societe Kodak-Pathe.*  
 Kodak-Pathe, 806, 807, 886, 887, 888, 986, 989, 1037, 1050, 1060, 1081, 1096, 1711, 1728, 1737.  
 Koehlin, C., 1133.  
 Koehler, R., 555.  
 Koelliker, R., 684.  
 Koelliker, R., 683, 2436.  
 Koenig, 159.  
 König, A., 2176.  
 Koenig, F., 252.  
*Koenig, J., see Skraup.*  
*Koenig, J., see Z. Skraup.*  
*Koenig, K., see E. Knoevenagel.*  
*Koenig, W., see F. Dehnert.*  
*Koenig, W., see H. Niethammer.*  
 Koenig, W., and K. Hey, 467.  
 Koenig, W., and E. Knorr, 2.  
*Koenigs, W., see E. Erwig.*  
 Koepf, R., & Co., and E. Eloed, 554.  
*Koester, H., see B. Helferich.*  
*Koetschau, R., see C. Harries.*  
 Koetschet, J., 467.  
 Koetschet, J., M. Beudet and Soc. Chim. des Usines du Rhone, 555.  
 Koetschet, J., and M. Theumann, 399, 412, 428, 466, 467.  
 Kohl, F., 2057.  
 Kohler, C., 2369.

- Kohn, E., 555, 1770.  
 Kohn, J., and S. Strauss, 2608.  
 Kohn, M., 1886.  
 Kohn-Abrest, A., 1770.  
 Kohorn & Co., O., *see* A. Lehner.  
 Kohorn & Co., O., and H. Schupp, 204, 1039.  
 Kohorn, O. von, and H. Schupp, 807, 2103, 2110, 2368.  
 Kohyeniiov, I., *see* A. Zakochtchikov.  
 Kolb, J., 1138, 1139.  
 Kolf, H., 2045.  
 Koller, G., 401, 1825, 1858, 2045.  
 Koller, H., 2045.  
 Koln-Rottweil, Akt-Ges., 684, 2003, 2032.  
 Kolosovskii, N. de, 684.  
 Kolthoff, I., 1187.  
 Komatsu, S., T. Inoue and R. Nakai, 1501.  
 Kondo, J., *see* M. Sendo.  
 Konek, F. v., and A. Loczka, 1298.  
 Kono, H., *see* G. Kita.  
 Kononova, M., *see* V. Omelyanskii.  
 Kopp & Joseph, 63, 2541.  
 Koreska, W., *see* R. Lant.  
 Koreska, W., 888, 1719, 2488, 2492.  
 Korn, S., 2472.  
 Koskul, F., 2608.  
 Kotjukow, J., *see* A. Nastukoff.  
 Kousnetzof, A., 2141.  
 Kowachiche, F., *see* E. Jasset.  
 Kraemer, G., 1841.  
 Kränzlein, G., and M. Corell, 555, 2256.  
 Kränzlein, G., M. Corell and R. Sedlmayr, 2240.  
 Kraenzlein, G., A. Voss and F. Brunntraeger, 1682.  
 Krafft, F., and A. Roos, 1298.  
 Kraiss, P., 376, 467, 683, 1220.  
 Kraiss, P., and R. Buchheim, 2159.  
 Kraiss, P., and H. Markert, 989.  
 Kramer, A., and N. Kramer, 989.  
 Kramer, N., *see* A. Kramer.  
 Kramer, R., *see* C. Burke.  
 Kramer, R., 1977.  
 Kranich, H., 555.  
 Krass, N., *see* J. Carlin.  
 Kraus, A., 1794, 2392, 2430, 2619.  
 Krause, A., *see* I. G. Farbenindustrie.  
 Krause, A., *see* P. Nawiaskey.  
 Krause, E., *see* H. Blücher.  
 Krause, E., 684, 2056.  
 Krause, E., and F. Wilhelmi, 246.  
 Krauss, C., *see* H. Gardner.  
 Krauss, E. von, *see* P. Karrer.  
 Kraut, 1133.  
 Krchma, I., *see* W. Edmonds.  
 Krech, R., *see* A. Aurednicek.  
 Krech, R., *see* I. G. Farbenind. A. G.  
 Kremann, R., 1263, 1280.  
 Kress, H., *see* C. Avery.  
 Kress, O., 1152.  
 Kress, O., and S. Wells, 1150, 1152.  
 Kressel, E., 1253.  
 Krieger, C., and G. Burt, 2602.  
 Krieger, W., *see* M. Schmidt.  
 Kruegel, C., *see* A. Ladenburg.  
 Krueger, 684, 2501.  
 Kreuger, D., 807, 889, 989, 990, 1167, 1173, 1208.  
 Krueger, D., and F. Hoehn, 989.  
 Krueger, D., and E. Tschirch, 889, 989, 990.  
 Krueger, H., *see* G. von Frank.  
 Krug, C., *see* C. Ehrenberg.  
 Krug, E., *see* E. Gebauer-Fuelnegg.  
 Kruger, D., 888, 889.  
 Kruger, H., 2499.  
 Krümming, M., 375, 2474.  
 Krupp, F., 808.  
 Krzikalla, H., *see* I. G. Farbenindustrie.  
 Krzikalla, H., *see* W. Mueller.  
 Ktatky, O., *see* A. Burgeni.  
 Kuchenbecker, A., *see* H. Wagner.  
 Kuerschner, K., 1176.  
 Kuester, W., and R. Daur, 1628.  
 Kuever, R., *see* A. Arent.  
 Kuh, E., 1259, 1285.  
 Kuhlmann, *see* Compagnie Nationale de Matieres Colorantes et Manufactures de Produits Chimiques du Nord, Reunies etablisements Kuhlmann.  
 Kuhlmann, F., 3, 5.  
 Kuhn, R., *see* I. G. Farbenind., A.-G.  
 Kuhn, R., 1061.  
 Kuhn, W., *see* K. Freudenberg.  
 Kummer, F., *see* J. Rast.  
 Kunau, F., *see* K. Hess.  
 Kunstfaeden Ges., 1358.  
 Kunze, A., 684, 2143.  
 Kurz, C., 1141.  
 Kurzweil, F., *see* R. Haller.  
 Kusagawa, M., *see* T. Araki.  
 Kusenack, W., *see* H. Pringsheim.  
 Kutani, N., *see* Y. Asahina.  
 Kuttner, F., 1246.  
 Kuwert, W., and C. Buschler, 2474.  
 Kwong, S., *see* P. Karrer.

*Kyriakides, L., see R. Earle.*  
*Kyrides, L., 1295.*

*Laan, V. van der, 555.*

*Laarmann, F., 431.*

*Labruyer, R., 2128.*

*LaCellophane, 2530.*

*Lach, B., 1823.*

*Lachs, H., and S. Parnas, 1088.*

*Lackfabrik. E. Dörken, K. Dörken,  
 E. Hochuli and H. Herminghaus,  
 1096.*

*Lacroix, G., 684, 808, 2238.*

*Lacy, B., 1252, 1272.*

*Ladenburg, 2652.*

*Ladenburg, A., and A. Fitz, 1966.*

*Ladenburg, A., and C. Kruegel,  
 1275.*

*Laffron, H., 990, 2604.*

*Lagrange, P., 430.*

*Lahousee, J., 555, 2099, 2371, 2555.*

*Lahousse, J., and Societe pour la  
 Fabrication de la soie Rhodia-  
 seta, 684.*

*Lajoanio, E., 2015.*

*Lamassiaude, J., 1234, 1243.*

*Lamb, M., and J. Gilman, 2462.*

*Lambert, C., see H. Diamanti.*

*Lambert, T., 2602.*

*Lamberty, C., 2596.*

*Lambrecht, W., see Kali-Chemie  
 A. G.*

*Lams, W., and J. Wyler, 2021, 2397.*  
*Lamson Paragon Supply Co., Ltd.,  
 see R. Bain.*

*Lance, R., see C. Shrager.*

*Lancegaye, see Mattingley.*

*Lancegaye Safety Glass, Ltd., see  
 N. Mattingley.*

*Lancegays, see Mattingly.*

*Landolt, A., 2314.*

*Landolt, C., see A. Lehner.*

*Landsberg, L., 338, 350, 373.*

*Landshoff, see Chem. Fabrik Grue-  
 nau, Landshoff & Meyer.*

*Landucci, A., 160, 808, 2579.*

*Lang, A., 556.*

*Lang, J., see W. Jaeck.*

*Lang, L., see P. Karrer.*

*Lang, O., see B. Helferich.*

*Langdon, G., see British Celanese,  
 Ltd.*

*Langdon, G., see H. Dreyfus.*

*Langdon, G., A. Flower and  
 S. Fulton, 2218.*

*Lange, B., see R. Herzog.*

*Lange, F., 160.*

*Lange, G., see R. Runkel.*

*Lange, H., see G. Balle.*

*Lange, H., see I. G. Farbenind.  
 A.-G.*

*Langfeldt, E., 556, 1817.*

*Langmuir, I., and E. Adams, 1366.*

*Langston, H., 2602.*

*Langverte G., et Cie, 685, 2462.*

*Langwell, H., see Distillers Co.,  
 Ltd.*

*Langwell, H., 889.*

*Langwell, H., and Distillers Co.,  
 Ltd., 1865.*

*Lansing, R., 2608.*

*Lant, R., 990, 1064, 1070, 2159.*

*Lant, R., and W. Koreska, 990,  
 991, 2392.*

*Lantz, L., see Calico Printers'  
 Assoc., Ltd.*

*Lantz, R., see Soc. Anon. des Mat.  
 Col. et Prod. Chim. de St.-Denis.*

*Lanz, V., see F. Henle.*

*Lanzenberg, A., see J. Duclaux.*

*Lapiana, F., see H. Bosland.*

*Lapierre, V., 916, 2538.*

*Lapworth, A., see C. Desch.*

*Lapworth, A., 1264.*

*Lardy, G., 160, 685, 722, 991, 2197,  
 2199, 2230.*

*Laryushkina, V., see N. Planovskii.*

*Lasche, A., see C. Schroeder.*

*Laska, A., 556.*

*Laska, A., and H. Prillwitz, 556.*

*Laska, L., and F. Weber, 808, 2275.*

*Laska, L., and A. Zitscher, 2265.*

*Laski, G., see R. Herzog.*

*La Societe Syntheta A.-G., 834.*  
*La Soie Artificielle, see Soc. Anon.  
 Francaise La Soie Artificielle.*

*La Soie de Clairoux, 991.*

*Lassmann, M., see H. Pringsheim.*

*Latham, L., see British Celanese,  
 Ltd.*

*La Trayas, H., 809.*

*Laudien, E., see C. Schraube.*

*Lauer, K., 1089.*

*Lauff, A., 1072.*

*Laugel, F., 1998.*

*Lausberg, L., see T. Pesch.*

*Lauste, E., see R. Haines.*

*Lautenberg, A., 292, 1044, 1550,  
 2622.*

*Lautenberg, A., and Chatillon (So-  
 cietà Anon. Italiana per la Seta  
 Artificiale), 1548.*

*Lauter, F., 2054.*

- Lavaud, R., 2306.  
 Law, D., 371, 1491.  
*Law, J., see W. Haworth.*  
 Lawrence, W., 467, 685, 2547, 2549, 2552.  
 Lawrence, W., and F. Barker, 1951.  
 Lawrence, W., and Kaumagraph Co., 293, 1569, 2550.  
*Lawrie, L., see J. Baddiley.*  
*Lawrie, L., see British Dyestuffs Corp.*  
*Lawrie, L., see R. Horsfall.*  
 Lawrie, L., 556, 809.  
 Lawrie, L., H. Blackshaw and British Dyestuff Corp., 2306.  
 Lawrie, L., F. Linch and E. Rodd, 161, 2296.  
*Laws, W., see W. Snelling.*  
 Lawson, P., 2596.  
*Lawson, W., see C. Burke.*  
*Lawson, W., see Canadian Industries, Ltd.*  
*Lawson, W., see Imperial Chemical Industries, Ltd.*  
 Lawson, W., 998, 1079, 1809, 1872, 1889, 1973, 1974, 1976, 2629.  
 Lawson, W., and Imperial Chemical Industries, Ltd., 1854.  
*Lazell, H., see A. Barr.*  
 Lazier, W., 1982.  
 Leaper, J., 991, 2208.  
*Learner, A., see W. Haworth.*  
*Lebach, H., see E. Knoevenagel.*  
*Le Bihan, H., see R. Cornubert.*  
 Lebourreau, V., and A. Taylor, 2128.  
 Lebrun, 556.  
 Lecocq, A., 2616.  
 Lecomber, L., and M. Probert, 1151.  
 Lecomte, G., 2218, 2219.  
 Leder, P., 1797.  
 Lederer, 404.  
 Lederer, L., 332, 337, 339, 343, 344, 346, 349, 350, 353, 355, 356, 357, 358, 362, 374, 388, 396, 411, 468, 1263, 1340, 1698, 1700, 1817, 1818, 1858, 1859, 1860, 1866, 1889, 1927, 2501, 2607.  
 Lederer, A. and E., 2128.  
*Lederer, E., see A. Lederer.*  
 Ledoga Soc. Anon. and C. Maimeri, 1286.  
 Ledru, M., and E. Bachmann, 719, 720.  
 Leduc, Heitz & Co., 394, 448, 1698.  
 Leduc, Heitz & Co. and The British Emallite Co., 430.  
*Lee, L., see C. Dreyfus.*  
 Lee, W., 889, 1785, 1978.  
*Leedham, L., see W. Holmes.*  
 Leemans, P., 352.  
 Lefferts, M., 2602, 2608.  
 Lefferts, M., and J. Stevens, 2474.  
 Le Film Ozaphane, 1561.  
 Lefranc, G., 2141.  
 Lefranc, J., and Soc. des Brevets Etrangers LeFranc & Cie, 991.  
 Legendre, G., 685.  
 Legg, D., 1867.  
 Legg, D., and C. Bogin, 685, 1936.  
 Legge, T., 1266.  
 Lehalleur, J., 1146.  
 Lehman, C., 81.  
 Lehmann, E., 1097.  
 Lehmann, F., 422, 556, 1864, 2046, 2053.  
 Lehmann, F., and J. Stocker, 468, 2054.  
 Lehmann, K., 1266.  
 Lehmann, L., and J. Stocker, 422.  
 Lehner, A., C. Landolt and O. Kohorn & Co., 2076.  
 Lehner, F., 1358, 2045.  
*Lehrman, L., see T. Taylor.*  
*Leibowitz, J., see H. Pringsheim.*  
*Leicester, F., see H. Golding.*  
*Leicester, F., see Imperial Chemical Industries, Ltd.*  
*Leicester, S., see A. Burlin.*  
 Leigh-Barnett, W., 556.  
 Leighton, A., 1200.  
 Leisegang, A., 2608.  
 Leisegang, A., and P. Simons, 2608.  
 Leiser, R., and F. Ziffer, 1252.  
*Leitch, G., see W. Haworth.*  
 Leitch, G., 1506.  
 Leitch & Co., Ltd., J., and A. Everest, 686.  
 Leitch & Co., Ltd., J., A. Everest and J. Wallwork, 686, 2244.  
*Lejeune, L., see J. Bongrand.*  
 Lely, A., 2181.  
 Le Material Telephonique, 2498.  
 Lengfellner, K., 2472.  
*Lenhard, W., see Farbenfabriken.*  
 Lenz, W., 1068.  
 Leonard, G., 686, 1970.  
 Leone, P., 1109.  
*Leopold, R., see Farbw. vorm. Meister, Lucius & Brünig.*  
 Leopold, R., 1874.  
 Leopold, R., and A. Michael, 1875.  
*Leopold, W., see Zellstoffabrik Waldhof.*

- Leproux, C., 1286.  
 Leroux, 2662.  
 Leroux, H., *see* P. Breteau.  
 Leroux, L., *see* L. Nottelle.  
 Leroy, F., 2128.  
 Le Roy & Co., G., 2616, 2619.  
 Lervux, 2662.  
 Letts, H., *see* G. Given.  
 Leuchs, O., *see* E. Doerr.  
 Leuchs, O., *see* Farbenfabriken vorm. Friedr. Bayer & Co.  
 Leuchs, O., *see* I. G. Farben-industrie, A.-G.  
 Leuchs, O., *see* E. Hubert.  
 Leuchs, O., *see* A. Weihe.  
 Leuchs, O., 8, 10, 38, 246, 1230, 1337, 1362, 1447, 1513, 2635.  
 Leuchs, O., and E. Doerr, 161, 190, 238, 1437, 1450, 2624, 2627.  
 Leuchs, O., and E. Hubert, 1381, 2079.  
 Leuchs, O., and I. G. Farben-industrie A. G., 239, 1485.  
 Levallant, R., 1287.  
 Levaillant, R., and L. Simon, 1265.  
 Levene, P., and I. Bencowitz, 686.  
 Levene, P., and G. Meyer, 81, 1503, 1504, 1509.  
 Levene, P., and H. Simms, 1503, 1504.  
 Levene, P., and R. Tipson, 1498.  
 Levene, P., and A. Walti, 891.  
 Levene, P., and M. Yamagawa, 81, 1509.  
 Lever, A., *see* J. Cooper.  
 Le Verre Souple, 557.  
 Levesley, A., *see* Imperial Chemical Industries, Ltd.  
 Levesley, A., *see* D. Traill.  
 Levesley, A., F. Randall and Imperial Chem. Industries, 1560.  
 Levey, H., 468, 557, 1735, 1800, 1891, 2567.  
 Levi, G., *see* Lonza Elektizitätswerke u. Chem. Fabr.  
 Levi, G., 890, 1745.  
 Levi, L., *see* C. Schroeder.  
 Levin, C., *see* Calico Printers' Assoc., Ltd.  
 Levin, S., 2602.  
 Levinstein, H., *see* Levinstein, Ltd.  
 Levinstein, H., 890, 991, 1151, 2501.  
 Levinstein, Ltd., H. Levinstein and W. Bader, 1294.  
 Levy, H., *see* R. Escalles.  
 Levy, H., 991.  
 Levy, L., 557, 686, 687, 2104, 2109, 2116, 2238, 2472.  
 Levy, L., and J. Mason, 687.  
 Levy, L., O. Silberrad and Apex (British) Artificial Silk, Ltd., 686.  
 Levy, M., 2540.  
 Lewin, J., 1562.  
 Lewis, Clara Harmon, xxi.  
 Lewis, F., *see* Courtaulds, Ltd.  
 Lewis, F., 2115.  
 Lewis, H., O. Mason and R. Morgan, 1265.  
 Lewis, J., *see* T. Barratt.  
 Lewis, R., *see* C. Hake.  
 Lewis, S., *see* W. Ramsay.  
 Lewis, S., 558.  
 Lewis, W., *see* C. Gross.  
 Lewis, W., *see* H. Neher.  
 Lewis, W., and W. Green, 2127, 2128.  
 Lewis, W., and E. Gustus, 1499.  
 Lewite, A., *see* W. v. Kaufman.  
 Lewy, J., 992.  
 Leysieffer, G., *see* P. Balke.  
 Leysieffer, G., 43, 82, 558, 1374, 2565, 2580.  
 Libbey-Owens Glass Co., 2584.  
 Libbrecht, C., 2128.  
 Lichtenberg-Madsen, D., 2537.  
 Lichtenhahn, T., 558.  
 Lichtenhahn, T., E. Luscher and H. Steiger, 687.  
 Lichtenthaeler, F., 558, 687, 992.  
 Lieber, H., 1165.  
 Liebermann, C., and O. Hoermann, 316.  
 Liebmann, H., 1269.  
 Liebowitz, J., *see* H. Pringsheim.  
 Liebster, A., 293, 1231, 1456, 1457.  
 Liedbeck, P., 2128.  
 Liedtke, C., *see* W. Stelkens.  
 Liepatoff, S., 1200.  
 Liesche, O., *see* B. Beckmann.  
 Liesegang, R., 2618.  
 Lieser, T., *see* L. Kalb.  
 Lieser, T., *see* P. Karrer.  
 Lieser, T., 161, 205, 246, 1136, 1322, 1329, 1370, 1646.  
 Lietke, C., *see* W. Stelkens.  
 Lifchuz, A., *see* P. Lifchuz.  
 Lifchuz, P. and A., 809.  
 Light, L., 2137.  
 Lilienfeld, F., 342.  
 Lilienfeld, L., *see* R. Jahoda.  
 Lilienfeld, L., 8, 10, 21, 22, 30, 38, 43, 47, 82, 83, 86, 91, 101, 124, 132, 161, 169, 205, 206, 222, 246,

- 247, 293, 294, 399, 400, 415, 416,  
430, 468, 891, 992, 1037, 1113,  
1160, 1161, 1164, 1180, 1181, 1224,  
1241, 1259, 1263, 1278, 1279, 1282,  
1283, 1300, 1337, 1338, 1347, 1348,  
1383, 1398, 1402, 1407, 1414, 1417,  
1421, 1422, 1447, 1450, 1468, 1482,  
1488, 1535, 1537, 1538, 1543, 1569,  
1575, 1576, 1581, 1590, 1607, 1641,  
1643, 1644, 1645, 1663, 1676, 1687,  
1699, 1722, 1748, 1762, 1763, 1764,  
1765, 1768, 1769, 1799, 1800, 1801,  
1807, 1813, 1819, 1823, 1841, 1864,  
1891, 1898, 1934, 1935, 1940, 1950,  
1952, 1969, 2001, 2002, 2019, 2030,  
2031, 2054, 2055, 2056, 2057, 2070,  
2071, 2161, 2168, 2216, 2224, 2225,  
2233, 2325, 2441, 2446, 2447, 2450,  
2459, 2463, 2465, 2517, 2565, 2581,  
2627, 2628, 2629, 2638, 2642.
- Linch, F.*, see *L. Lawrie*.  
*Lincoln, G.*, 2607.  
*Lindberg, S.*, see *S. Oden*.  
*Lindemann, 1199*.  
*Lindemann, E.*, see *W. Traube*.  
*Lindsay, W.*, 91, 132, 294, 389, 406,  
421, 469, 470, 471, 472, 559, 687,  
1561, 1562, 1563, 1686, 1816, 1818,  
1836, 1841, 1843, 1844, 1859, 1868,  
1870, 1901, 1902, 1905, 1906, 1911,  
1915, 1929, 1931, 1937, 1957, 1959,  
1960, 1962, 1963, 1964, 1965, 1978,  
2016, 2022, 2026, 2027, 2036, 2037,  
2038, 2580, 2608, 2620.
- Ling, A.*, 1153.  
*Ling, A.*, and *D. Nanji*, 1153.  
*Lingelsheim, A. v.*, 1162.  
*Link, A.*, see *H. Hoz*.  
*Linnell, W.*, see *E. Hersant*.  
*Lintner, C.*, 1473.  
*Liorot, H.*, 2602.  
*Lipatov, S.*, 1200.  
*Lipatov, S.*, and *N. Sokolova*, 1203.  
*Lippincott, G.*, 2619.  
*Lippmann, E. v.*, see *M. Bergmann*.  
*Lippold, A.*, see *H. Stobbe*.  
*Lipscomb, A.*, see *British Acetate  
Silk Corp.*  
*List, M.*, see *M. Jenett*.  
*Little, A.*, see *H. Mork*.  
*Little, A.*, 329, 560, 1151.  
*Little, Inc., A. D.*, and *H. Billings*,  
2606.  
*Little, Inc., A. D.*, *G. Esselen* and  
*H. Mork*, 559.  
*Livsey, 2663*.  
*Livingston & Doughty, Ltd.*, 2472.
- Livsey, 2663*.  
*Livsey, H.*, see *J. & J. M. Worrall,  
Ltd.*  
*Livsey, H.*, *G. Holden* and *J. &  
J. M. Worrall, Ltd.*, 809, 2208.  
*Ljubitsch, N.*, see *K. Hess*.  
*Ljunggren, G.*, 560.  
*Lloyd, J.*, and *J. Wild*, 2128.  
*Lloyd, L.*, and *E. Priestley*, 810.  
*Loach, J.*, see *W. Haworth*.  
*Lock, L.*, see *Farbenfabriken vorm.  
Friedr. Bayer & Co.*  
*Lock, L.*, see *E. Hubert*.  
*Lock, L.*, see *I. G. Farben-  
industrie, A.-G.*  
*Lock, L.*, see *W. Walter*.  
*Lock, L.*, and *E. Hubert*, 2418.  
*Lockwood, C.*, 2607.  
*Loczka, A.*, see *F. v. Konek*.  
*Loder, D.*, and *W. Lewis*, 1507.  
*Lodge, F.*, see *British Dyestuffs  
Corp., Ltd.*  
*Lodge, F.*, see *Imperial Chemical  
Industries, Ltd.*  
*Löchner, L.*, 2132.  
*Loeffler, R.*, 472, 560.  
*Löfman, N.*, see *E. Hägglund*.  
*Loehr, O.*, 1855, 2565.  
*Loehr, O.*, and *I. G. Farben-  
industrie, A.-G.*, 891.  
*Loeschner, C.*, 2602.  
*Loew, E.*, see *Verein für Chemische  
Industrie A.-G.*  
*Loewe, B.*, 560.  
*Loewig, C.*, 1275.  
*Loiseleur, J.*, and *P. Morel*, 1052.  
*Loiseleur, J.*, and *L. Velluz*, 992,  
1087.  
*Loisy, M. de*, see *A. Damiens*.  
*Lomborg, E.*, 1096, 2504.  
*Lommel, W.*, see *R. Engelhardt*.  
*Lommel, W.*, and *R. Engelhardt*,  
1278.  
*Lommel, W.*, *A. Ossenbeck* and  
*R. Engelhardt*, 1278.  
*Lonarit-Ges.*, 2567.  
*Londberg, B.*, 2663.  
*Londberg, G.*, see *R. Herzog*.  
*Londberg, G.*, 2663.  
*Londe, 2603*.  
*Long, C.*, see *W. Haworth*.  
*Longmate, W.*, 423.  
*Lonza Elektrizitätswerke u. Chem-  
ische Fabriken Akt.-Ges.*, 993,  
1037, 1092, 1458, 2222.  
*Lonza Elektrizitätswerke u. Chem.*



- Fabr., A.-G., G. Levi and G. Benaglia, 1087.  
 Loomis, C., 1293.  
 Loose, A., *see* E. Schering.  
 Loose, A., 413.  
 Lorand, E., *see* H. Pringsheim.  
 Lorient, A., 2472.  
 Lord, W., *see* Gramophone Co., Ltd.  
 Lorenz, A., 2663.  
 Lorenz, R., 1190, 1198.  
 Lorges, B., 1293.  
 Lorimer, W., 2180.  
 Lorsch, 2537.  
 Lotarev, B., 1180.  
 Lottermoser, A., and H. Radestock, 1193.  
 Loubman, N., *see* P. Petrenko-Kritschenko.  
 Loughlin, K., *see* C. Dreyfus.  
 Lougovoy, B., 810, 1800.  
 Lourenco, A., and A. Würtz, 1875.  
 Lovejoy, F., 92, 560, 2513.  
 Lovell, S., 810, 2472.  
 Lowe, W., *see* British Celanese, Ltd.  
 Lowenthal, R., 380.  
 L'Oyonnaxienne, 687.  
 Lubovich, V., and M. Maltbie, 1079.  
 Luca, S. de, *see* M. Berthelot.  
 Lucas, O., 1179.  
 Lucius, F., *see* F. Heynert.  
 Luck, A., 329, 1734.  
 Luck, A., and C. Cross, 2002, 2032.  
 Ludwig, L., and E. Pfefferkorn, 2602.  
 Lüdecke, G., 1082.  
 Luedecke, K., *see* Verein Chem. Werke.  
 Luethy, M., *see* H. Staudinger.  
 Lüttke, H., 1857.  
 Luft, M., 687.  
 Luftfahrzeugbau Schutte-Lanz., 473.  
 Luftschiffbau Zeppelin G. m. b. H. and H. Strobl, 891, 2482.  
 Lumiere, A., 403.  
 Lumiere, A. and L., 343, 364, 2602.  
 Lumiere, A., *et ses Fils*, *see* Soc. anon. des Plaques et Papiers Photographiques.  
 Lumiere, L., *see* A. Lumiere.  
 Lumiere, L., 2602.  
 Lummerzheim, H., 2120.  
 Lummerzheim, H., and E. Schnitzler, 2535.  
 Lund, W., *see* British United Shoe Machinery Co., Ltd.  
 Lund, W., 2472.  
 Lund, W., and L. Mellerio, 810, 2472.  
 Lundholm, C., and J. Sayers, 1908, 2003.  
 Lundvall, C., *see* P. Claesson.  
 Lung, P., *see* F. Bergstrom.  
 Lunt, G., *see* E. Badger & Sons.  
 Luscher, E., *see* T. Lichtenhahn.  
 Lustrafil, Ltd., and S. Barker, 2186, 2188.  
 Lustron Co., 689.  
 Luther, M., *see* H. Franzen.  
 Luther, M., *see* I. G. Farbenindustrie A.-G.  
 Luther, M., and W. Becker, 1230.  
 Luther, M., and C. Heuck, 2054.  
 Luther, M., and E. Ober, 2628.  
 Luttringer, A., *see* A. Dubosc.  
 Luttringer, A., 560, 1706, 1938.  
 Lutz, G., *see* O. Schmidt.  
 Lutz, G., 2662.  
 Lutz, H., 2127.  
 Lykes, C., *see* C. Sundstrum.  
 Lynn, E., and H. Shoemaker, 1286.  
 Lyons Piece Dye Works, 810, 1037, 2162, 2306.  
 Lytle, W., 2596.  
 Lyttleton, W., *see* Triplex Safety Glass Co.  
 Lyttleton, W., and Triplex Safety Glass Co., 424.  
 Maalouf, E., 2616, 2618.  
 Macbeth, A., *see* G. Hughes.  
 Macbeth, A., and J. Mackay, 1495.  
 MacDonald, D., 430, 688.  
 Macdonald, D., and Dubilier Condenser Co., 688.  
 MacDonald, J., *see* J. Irvine.  
 MacDonald, J., 1104.  
 Macdonald, T., 2602.  
 MacGillavry, D., 1116, 1117.  
 Machemer, *see* Bergmann.  
 Machemer, H., *see* M. Bergmann.  
 Macintosh & Co., Ltd., C., S. Brazier and G. Thompson, 810, 2543.  
 Mack, E., C. Boord and N. Barham, 2061.  
 Mackay, J., *see* A. Macbeth.  
 Mackie, S., and C. Faure, 1562.  
 Mackie, S., C. Faure and G. Trench, 1181, 1562.  
 MacMillan, J., 560, 1824.  
 Macormac, A., *see* C. Mullin.  
 Madaler, von, F., 2602.

- Maggi, H., and G. Woker, 1619.  
 Magidson, O., 828.  
 Magidson, O., I. Zilberg and N. Preobrazhenskii, 828, 1720.  
 Magnier, P., see A. Behal.  
 Magnus, G., 1277.  
 Magnus, H., see H. Pringsheim.  
 Mahn, H., see I. G. Farbenindustrie.  
 Mahn, H., see W. Schieber.  
 Mahood, S., and D. Cable, 1167.  
 Mai, A., 2002.  
 Maier, A., 1816.  
 Maier, D., see V. Bordigone.  
 Mailhe, A., 891.  
 Mailhe, A., and F. de Godon, 560.  
 Mailhe, A., and Sabrou, 891.  
 Maillard, C., see J. Altwegg.  
 Maillon, J., 2139.  
 Maimeri, C., see Ledoga Soc. Anon.  
 Maimeri, C., 1286.  
 Main, W., 473.  
 Mainsbrecq, G., see G. Catala.  
 Malet, J., see R. Armenault.  
 Malfitano, G., 1472, 2458.  
 Malfitano, G., and A. Moschkoff, 1472.  
 Malhotra, R., 1182.  
 Mallabar H., see Non-Inflammable Film Co., Ltd.  
 Mallabar, H., 688, 993, 2588.  
 Mallabar, H., and Non-Inflammable Film Co., Ltd., 688, 2587.  
 Mallet, A., 2128.  
 Mallock, H., see Brit. Cellulose & Chem. Mfg. Co., Ltd.  
 Malm, C., see H. Clarke.  
 Malm, C., see Kodak, Ltd.  
 Malm, C., see W. Webb.  
 Malm, C., 688, 993, 1056, 1063, 1411, 2640.  
 Malm, C., and A. Andersen, 891, 1037, 1055, 1058, 1350, 1364.  
 Malm, C., and H. Clarke, 810.  
 Malm, C., and C. Fletcher, 1697.  
 Malone, L., 92, 1666, 2031, 2513.  
 Malone, L., and S. Carroll, 689, 1904, 1962.  
 Malowan, S., 1116.  
 Maltbie, M., see V. Lubovich.  
 Maly, F., see K. Hazura.  
 Manchester Oxide Co., 473, 1797.  
 Manchester Oxide Co. and R. Clayton, 1797.  
 Manchester Oxide Co., R. Clayton, J. Huebner and H. Williams, 473, 1136.  
 Mancini, U., 206.  
 Manfred, O., and J. Obrist, 689.  
 Manissadjian, H., see W. Merckens.  
 Manissadjian, H., 370.  
 Manissadjian, H., and W. Merckens, 391.  
 Mann, M., 1870.  
 Mann, R., see British Celanese, Ltd.  
 Mann, R., see G. Ellis.  
 Mannell, H., 1620.  
 Mannesmann, R., 561.  
 Manning, R., 1938.  
 Mansier, 1137.  
 Manwaring, G., 2602.  
 Maquenne, L., 1264, 1507.  
 Maquenne, L., and W. Goodwin, 418.  
 March, A., 689.  
 Marckworth, O., 1079.  
 Marcusson, J., 1145.  
 Mardles, 1782.  
 Mardles, E., 561, 714, 811, 841, 963, 1355, 1774, 1775, 1781.  
 Mardles, E., Moses and Willstrop, 1781.  
 Marette, J., 689.  
 Marin, A., 2031.  
 Marino, P., 2059.  
 Marion, L., see H. Hibbert.  
 Mariotti, A., see C. Padovani.  
 Mark, H., see J. Hengstenberg.  
 Mark, H., see I. G. Farbenind. A.-G.  
 Mark, H., see J. Katz.  
 Mark, H., see K. Meyer.  
 Mark, H., 891, 1179, 1365.  
 Mark, H., and K. Meyer, 1106, 1117, 1120, 1121, 1122.  
 Mark, H., and G. v. Susich, 247, 1120, 1121, 1326, 1371.  
 Markert, H., see P. Kraiss.  
 Markert, L., see K. Freudenberg.  
 Markov, V., see G. Povarnin.  
 Marks, E., 2499.  
 Marlier, A., 689.  
 Marlor, L., see P. Allman.  
 Marques, J., 562, 1720.  
 Marsac, de, see Soc. Nauton Freres et de Marsac.  
 Marsal, P., 2408.  
 Marsden, F., see Ulzer.  
 Marsden, K., 689.  
 Marshall, M., 690.  
 Marshall, M., and G. Shaw, 473, 690, 1875, 1922.  
 Marshall, W., 562, 616, 1238.  
 Martens, A., 406, 1930.

- Martin, A., 294, 2403, 2479.  
 Martin, C., 562, 2567.  
 Martin, F., see *J. Timmermanns*.  
 Martin, H., see *British Celanese, Ltd.*  
 Martin, H., see *C. Dreyfus*.  
 Martin, K., see *C. Hurd*.  
 Martin, R., see *Brit. Celanese, Ltd.*  
 Martin, R., see *W. Dickie*.  
 Martin, R., 690, 1914.  
 Martin, W., 2540.  
 Martinez, M., 737.  
 Marvel, C., see *O. Kamm*.  
 Marwick, T., see *W. Astbury*.  
 Marx, C., 690, 2619.  
 Marzahn, R., 359.  
 Masa Ges. zur Herstellung kunstlicher Oberflaechen, 994.  
 Mascart, L., 424, 562, 1891, 2006, 2587.  
 Maschinenbau A.-G., Goltzern  
   Grimma, see *A. Zeckendorf*.  
 Maschinenfabrik M. Hauesser, 1240.  
 Maselli, C., see *G. Grasse-Cristaldi*.  
 Mashino, M., 562.  
 Masland, W., 1821, 1868.  
 Mason, D., 1062.  
 Mason, F., see *A. King*.  
 Mason, J., see *L. Levy*.  
 Mason, O., see *H. Lewis*.  
 Masson, I., and R. McCall, 561.  
 Masson, J., see *R. Craig*.  
 Massot, W., see *L. Grognot*.  
 Massot, W., 657.  
 Masterson, R., 1770.  
 Mastro, D., 1246.  
 Masuda, S., see *S. Iwasaki*.  
 Masuda, S., see *G. Kita*.  
 Masury & Sons, J., 2567.  
 Matheson, H., see *Canadian Electro Products Co., Ltd.*  
 Matheson, H., 473, 562, 563, 812, 994, 1804, 1922, 1959, 1966, 2396.  
 Matheson, H., and F. Skirrow, 563.  
 Matray, J., 473, 1817.  
 Matsumoto, H., see *K. Atsuki*.  
 Matter, O., see *T. Goldschmidt A. G.*  
 Matthews, F., 1857, 2047, 2602.  
 Matthews, F., and W. Messer, 2602.  
 Matthews, I., 92, 1915, 2514.  
 Matthews, J., 2459.  
 Mattin, H., 2609, 2619.  
 Mattingley and Lancegay, 2663.  
 Mattingley, M., 2663.  
 Mattingley, N., 2663.  
 Mattingley, N., and A. Rea, 690, 2587.  
 Mattingley, N., and Lancegay Safety Glass, Ltd., 994, 2586.  
 Mattingly and Lancegays, 2663.  
 Matuura, K., and K. Takagi, 2448.  
 Matzdorf, G., see *G. Reddelien*.  
 Maquenne, L., 2, 42.  
 Maude, A., see *C. Hand*.  
 Maude, A., 812.  
 Maurel, A., see *R. Cornubert*.  
 Maurer, A., 840, 2529.  
 Maurer, K., and W. Petsch, 994.  
 Mauvillain, E., and V. Guillet, 2616, 2619.  
 Maxim, H., 2002, 2004.  
 Maxorov, B., 2637.  
 May, F., 2498.  
 Mayer, H., 2409, 2539.  
 Maysers Hutfabrik, 423.  
 Maze, A., 563.  
 Mazume, T., see *G. Kita*.  
 McBain, J., C. Harvey and L. Smith, 813.  
 McBurney, J., and E. Nollau, 162, 1349, 2410.  
 McCaine, W., 2044.  
 McCall, R., see *W. Gibson*.  
 McCall, R., see *I. Masson*.  
 McCarroll, R., see *H. Ford*.  
 McClellan, J., 2019, 2472.  
 McClelland, J., 365, 2053, 2054.  
 McClelland, J., and L. Streeter, 2537.  
 McClosky, J., and C. Farwell, 2474.  
 McCloud, J., 994, 2392.  
 McCoy, R., 1155.  
 McCoy, R., and O. Sjostrom, 1155.  
 McCurdy, A., 473, 2502.  
 McCutchan, W., see *L. Christensen*.  
 McCutcheon, W., 2482.  
 McDaniel, A., 563, 891, 2006, 2507.  
 McDermott, F., see *H. Hopkins*.  
 McElroy, K., 474 1843, 1844.  
 McGee, R., see *C. Mullin*.  
 McGlynn, R., see *J. Irvine*.  
 McGregory, J., see *P. Frankland*.  
 McIntosh, J., 691, 812, 2599.  
 McKechnie, J., see *Vickers, Ltd.*  
 McKechnie, J., 474, 2482.  
 McKechnie, J., Ryan and Vickers, Ltd., 474.  
 McKee, R., 1253.  
 McKeefe, E., see *L. Bradley*.  
 McKerrrow, C., see *S. Goldreich*.  
 McLachlan, J., 1152.

- McLang, see Beatty.*  
*McLaren, W., see D. Sutherland.*  
*McLaurin, J., 994.*  
*McLean, E., see C. Staud.*  
*McLean, R., 1095.*  
*McLellan, D., see British Celanese, Ltd.*  
*McLeod, N., 2205.*  
*McNally, J., see S. Sheppard.*  
*McNally, J., see G. Whitby.*  
*McNally, J., and A. Godbout, 813.*  
*McNally, J., and S. Sheppard, 892, 994, 2501.*  
*McNally, J., and W. Vanselow, 892, 994, 1372.*  
*McOwan, G., 1499.*  
*McSweeney, D., see J. Reilly.*  
*McTavish, Ramsay & Co., 422.*  
*McTavish, Ramsay & Co., and A. Ramsay, 422.*  
*Meder, G., see F. Henle.*  
*Medical Supply Assn., Ltd., 2567.*  
*Medicus, F., see R. Herzog.*  
*Medicus, F., 474, 1979.*  
*Mehren, 563, 2400.*  
*Meigs, C., 564.*  
*Meingast, R., and M. Mugdan, 625, 626, 1048.*  
*Meisenheimer, T., 691, 2313.*  
*Meissner & Buch, 1093.*  
*Meister, Lucius and Bruening, see Farbwerke.*  
*Melamid, M., 564, 813, 814.*  
*Mellanoft, I., 1165.*  
*Mellerio, L., see British United Shoe Machinery Co., Ltd.*  
*Mellerio, L., see W. Lund.*  
*Mellor, A., see British Celanese, Ltd.*  
*Mellor, W., see British Celanese, Ltd.*  
*Melms, F., 1234.*  
*Mendel, W., 995, 1852.*  
*Mendrzyk, H., see G. von Frank.*  
*Meneghini, 1240.*  
*Menger, A., 2022, 2031.*  
*Menke, J., 691.*  
*Menon, B., see D. Peacock.*  
*Menter, F., see Z. Skraup.*  
*Mentzel, A., 1334, 2442.*  
*Menzel, P., see W. Forstmann.*  
*Menzies, R., 1506.*  
*Mercadel, J., 892.*  
*Mercer, J., 1183, 1199.*  
*Merck, E., 1257, 1267.*  
*Merckens, W., see J. Smith.*  
*Merriess, W., and H. Manissadjian, 391, 1681, 1687, 2035.*  
*Merlau, O., see E. Opfermann.*  
*Merling, G., see W. Jacobi.*  
*Mersereau, G., 474.*  
*Mertens, F., see E. Knoevenagel.*  
*Mertz, V., see British Cellulose Syndicate.*  
*Merz, O., 995, 2482.*  
*Messer, H., 1793.*  
*Messer, W., see F. Matthews.*  
*Messmer, E., see K. Hess.*  
*Messmer, E., see I. G. Farbenindustrie.*  
*Messmer, E., see L. Rosenthal.*  
*Mestrallet-Petry, E., 2058.*  
*Metner, F., see Z. Skraup.*  
*Mettler, C., 1871, 1872.*  
*Metz, G., see P. Schreurs.*  
*Metzger, R., see Badische Anilin & Soda-Fabr.*  
*Metzger, R., see I. G. Farbenindustrie, A.-G.*  
*Metzger, R., 673, 814, 2209, 2213, 2214, 2222, 2264.*  
*Metzger, R., and P. Nawiaskey, 197.*  
*Metzl, H., see W. Hentrich.*  
*Meunier, G., 474, 1891, 1910, 1998.*  
*Meunier, L., and M. Gonfard, 1555.*  
*Meunier, L., and R. Guyot, 212, 1620.*  
*Meunier, L., and G. Revillon, 995, 1043.*  
*Meunier, L., and J. Vallette, 892.*  
*Meyer, see Chem. Fabrik Gruenau, Landshoff & Meyer.*  
*Meyer, E., see R. Garke.*  
*Meyer, E., see O. Schmidt.*  
*Meyer, E., and W. Claasen, 1928.*  
*Meyer, F., 367, 368, 384, 474, 2434.*  
*Meyer, G., see R. Hoemberg.*  
*Meyer, G., see P. Levene.*  
*Meyer, H., 486, 1585, 2539.*  
*Meyer, H., and H. Pfannenstiel, 2118.*  
*Meyer Bros., J., 2567, 2616.*  
*Meyer, J., 2183.*  
*Meyer, K., see I. G. Farbenind. A. G.*  
*Meyer, K., see H. Mark.*  
*Meyer, K., 475, 564, 1921.*  
*Meyer, K., and H. Hopff, 686, 892, 1130.*  
*Meyer, K., H. Hopff and A. Guenther, 2264.*  
*Meyer, K., H. Hopff and H. Mark, 893.*  
*Meyer, K., and H. Mark, 895, 984, 1105, 1121.*

- Meyer, K., and J. Mueller, 691.  
 Meyer, K., and C. Schuster, 2257.  
 Meyer, O., 1155.  
 Meyers-Sansboeuf, Ges., A., 1180.  
*Meyersohn, P., see H. Pringsheim.*  
 Meygret, A., 343, 2046.  
 Mezey, E., 1412.  
*Michael, A., see Farbw, vorm. Meister, Lucius & Brüning.*  
*Michael, A., see R. Leopold.*  
 Michael, A., 702, 1491, 1874.  
 Michael, (J.) A.-G., für Chemische und Metallurgische Industrie., 206, 814, 2213, 2505.  
 Michael, W., and W. Haag, 995.  
 Michailenko, J., and N. Protassowa, 1297.  
 Michaud, F., 1042.  
 Micheel, F., 691.  
 Micheel, F., and K. Hess, 125, 1128.  
 Michels, J., 1266.  
 Micksch, K., 1055.  
*Middleton, E., see G. Rocker.*  
 Middleton, E., 692, 995, 1851.  
 Midgley, T., 1980, 1988.  
 Mienes, C., 2635.  
*Mienes, K., see G. Frank.*  
 Mijnsen, C., 394, 1859, 1873, 1889.  
 Mikorey, H., 2602.  
 Milani, A., 564.  
 Milans, J., 2602.  
 Miles, 380.  
*Miles, G., see C. Dreyfus.*  
 Miles, G., 339, 347, 348, 413, 475, 564, 1151, 1414, 1433, 1434, 1617, 1681, 1892, 2207.  
 Miles, G., and C. Dreyfus, 692, 893, 995, 1686.  
 Miles, G., and E. Worden, 692.  
 Milhomme, A., 893, 2342.  
 Milnitz, A., and Farbenfabriken vorm. F. Bayer & Co., 376.  
*Miller, B., see British Celanese, Ltd.*  
*Miller, B., see H. Dreyfus.*  
*Miller, C., see W. Penniman.*  
*Miller, E., see W. Haworth.*  
 Miller, O., 1200, 1201.  
*Miller, W., see British Celanese, Ltd.*  
*Miller, W., see H. Dreyfus.*  
*Miller, W., see G. Ellis.*  
 Miller, W., and A. Pierman, 2602.  
 Millet, J., 2602.  
 Milligan, C., J. Chappell and E. Reid, 564.  
 Mills, C., 2499.  
 Milne, W., 692.  
 Mimosa Akt.-Ges., 995, 2529.  
 Minck, P., 359.  
 Minck, P., and Bremer Baumwollwerke Ges., 359.  
 Minerva Engineering Co., 2567.  
 Minsaa, J., 1498.  
*Minuto, J., see D. Young.*  
 Misener, M., see F. Howe.  
 Miskella, W., 1770, 2609.  
*Mitchell, J., see W. Haworth.*  
 Mitchell, R., 1933, 1935, 2020.  
 Mitscherling, W., 1113.  
 Mittasch, A., and M. Mueller-Cunradi, 1269.  
*Miyoshi, S., see K. Tanemura.*  
 Mobley, E., 2602.  
 Mock, 1266.  
 Möhring, A., G. Schultze and P. Schlack, 2310.  
 Moeller, F., 565.  
*Moeller, P., see M. Hagedorn.*  
*Moeller, P., see I. G. Farbenindustrie.*  
 Möllering, C., 1066.  
 Moelwyn-Hughes, E., and A. Rolfe, 1038.  
 Moest, M., and E. Schirm, 565.  
 Moffatt, G., 1155.  
 Mohlau, F., 1266.  
 Moldavskii, B., 995.  
*Moncada, C., see G. Bergellini.*  
 Moncany, G., 414.  
*Moncrieff, R., see British Celanese, Ltd.*  
*Moncrieff, R., see H. Dreyfus.*  
 Monroe, K., 692, 2561.  
 Montgomery, J., 995.  
*Montgomery, S., see E. Payne.*  
 Montmollin, G. de, and G. Bonhote, 693, 2250.  
*Montonna, R., see K. Kobe.*  
 Montonna, R., 1104.  
 Monypenny, J., 893.  
 Moodie, A., see J. Irvine.  
*Moog, K., see H. Schlubach.*  
 Moore, H., 1141.  
 Moore, I., see J. Edwards.  
 Moore, M., 693.  
 Mooser-Schiess, W., 475, 565, 1493, 1976.  
*Morane, L., see J. Schmerber.*  
*Moravec, R., see W. Engs.*  
*Morazain, J., see H. Hibbert.*  
 Morden, G., 693, 812.  
 Morel, M., 1905.

- Morel, P.*, see *J. Loiseleur*.  
*Morford, J.*, see *Viscose Development Co.*  
*Morford, J.*, 475.  
*Morgan, J.*, and *R. Soule*, 1288.  
*Morgan, R.*, see *H. Lewis*.  
*Morgan, W.*, 996, 1078, 2585.  
*Morgan, W.*, and *R. Robison*, 1506.  
*Moriones, A.*, see *J. Escamez*.  
*Mork, H.*, see *G. Esselen*.  
*Mork, H.*, see *A. D. Little, Inc.*  
*Mork, H.*, see *W. Walker*.  
*Mork, H.*, 363, 395, 407, 420, 433, 475, 578, 694, 1812, 1814, 1817, 1910, 1914.  
*Mork, H.*, and *C. Coffin*, 565, 693, 1701, 1817.  
*Mork, H.*, and *G. Esselen*, 475, 1964.  
*Mork, H.*, *A. Little* and *W. Walker*, 341, 1858, 1892.  
*Mork, H.*, *W. Walker* and *A. Little*, 1859.  
*Morle, M.*, 693.  
*Morozov, I.*, 2404.  
*Morpurgo, G.*, 1254.  
*Morris, G.*, see *H. Brown*.  
*Morris, H.*, see *P. Allman*.  
*Morris, H.*, 1808, 1809, 2547.  
*Morris, T.*, see *M. Schur*.  
*Morrison, G.*, see *Canadian Electric Products Co., Ltd.*  
*Morrison, G.*, see *F. Skirrow*.  
*Morton, E.*, see *Courtaulds, Ltd.*  
*Morton, F.*, 1971.  
*Morton, W.*, 476, 2602.  
*Morton, Sundour Fabrics, Ltd.*, see *W. Kilby*.  
*Mosby, D.*, see *British Celanese, Ltd.*  
*Mosby, D.*, *H. Olpin* and *G. Ellis*, 1082, 1083, 2254.  
*Moschkoff, A.*, see *G. Malfitano*.  
*Mosenthal, H. de*, 813.  
*Moses*, see *E. Mardles*.  
*Moss, W.*, see *British Celanese, Ltd.*  
*Moss, W.*, see *C. Dreyfus*.  
*Moss, W.*, 177, 294, 741, 746, 955, 996, 1038, 1076, 1077, 1080, 1090, 1570, 1572, 1698, 1812, 1857, 1890, 1943, 1968, 1980, 1982, 2042, 2121, 2395, 2405, 2406, 2407, 2417, 2480, 2506, 2535, 2555, 2586, 2588, 2592.  
*Moss, W.*, and *Brit. Celanese, Ltd.*, 2042.  
*Moss, W.*, and *K. Crutchfield*, 1077, 2586.  
*Moss, W.*, and *C. Dreyfus*, 996, 2406, 2570.  
*Moss, W.*, and *G. Seymour*, 1079, 1093.  
*Moss, W.*, and *B. White*, 176, 248, 741, 747, 1572, 1581, 1999, 2038, 2394, 2405, 2408, 2561.  
*Moss, W.*, *B. White* and *Brit. Celanese, Ltd.*, 2042.  
*Moss, W.*, *B. White* and *C. Dreyfus*, 248, 1572.  
*Mossgraber, E.*, 814, 2111.  
*Mostert, F.*, 2472.  
*Mostny, L.*, 694, 2536.  
*Motz, R.*, see *E. Knoevenagel*.  
*Mowbray, G.*, 2059.  
*Mowen, P.*, 1770.  
*Mudford, H.*, see *British Dystuffs Corp., Ltd.*  
*Mühlendahl, E. v.*, 2060.  
*Muehlhaeusser, W.*, and *M. Trautz*, 996.  
*Mueller, A.*, see *K. Hess*.  
*Mueller, A.*, 294, 814, 1117, 1502.  
*Mueller, C.*, see *W. Eckert*.  
*Mueller, C.*, see *H. Eichwede*.  
*Mueller, C.*, see *E. Fischer*.  
*Müller, C.*, see *I. G. Farbenind., A. G.*  
*Mueller, C.*, see *H. Wagner*.  
*Mueller, C.*, 2260.  
*Mueller, C.*, and *W. Eckert*.  
*Mueller, E.*, see *H. Eichwede*.  
*Mueller, E.*, see *I. G. Farbenindustrie, A.-G.*  
*Mueller, E.*, see *E. Knecht*.  
*Mueller, E.*, 565, 2229.  
*Mueller, F.*, see *E. Vongerichten*.  
*Mueller, G.*, 996, 2134.  
*Müller, H.*, 2224, 2312.  
*Mueller, J.*, see *K. Meyer*.  
*Mueller, J.*, 1220, 1254.  
*Mueller, K.*, 1161.  
*Mueller, M.*, 1257, 1266, 1271, 2362.  
*Mueller, M.*, and *Cello Products Inc.*, 619.  
*Mueller, R.*, 476, 565, 1141.  
*Müller, R.*, and *E. Rabald*, 1047.  
*Mueller, R.*, and *W. Stelkens*, 294, 2552.  
*Müller, R.*, and *F. Voeller*, 1047.  
*Müller, W.*, see *K. Holzach*.  
*Mueller, W.*, see *I. G. Farbenindustrie*.  
*Mueller, W.*, see *G. Reddelien*.  
*Mueller, W.*, see *O. Spengler*.  
*Mueller, W.*, 2400.  
*Mueller, W.*, *K. Holzach* and *H.*

- Krzikalla, 2572.  
*Mueller-Cunradi, M.*, see *I. G. Farbenind. A.-G.*  
*Mueller-Cunradi, M.*, see *A. Mittasch*.  
Muench, C., 893, 2433.  
Muencke, 1562.  
Mugdan, H., 2663.  
*Mugdan, M.*, see *E. Baum*.  
*Mugdan, M.*, see *Consortium fur Elektrochem, Ind. G. m. b. H.*  
*Mugdan, M.*, see *R. Meingast*.  
Mugdan, M., 2663.  
Mugdan, M., and J. Sixt, 1066.  
Mugdan, M., and J. Wimmer, 626.  
Mullaly, J., see *D. Hammick*.  
Muller, A., see *K. Hess*.  
Muller, C., see *W. Eckert*.  
Muller, C., 125.  
Muller, H., 814.  
Muller, O., 2183.  
Muller, R., and Deutsche Celluloid Fabr., 497.  
*Muller-Clemm, H.*, see *Zellstoffabrik Waldhof*.  
Muller-Schmoss, A., 2611.  
Mullin, C., 694, 695, 814, 815, 894, 996, 1089, 2146, 2245, 2293, 2308.  
Mullin, C., and H. Hunter, 894, 996, 1551.  
Mullin, C., and A. Macormac, 894.  
Mullin, C., and R. McGee, 1751.  
*Mullinnix, J.*, see *J. Brown*.  
*Mullinx, R.*, see *H. Rea*.  
Multhaupt, O., 2602.  
Munch, M., 1758.  
Munktell, E., 695, 996.  
Munson, W., 1149.  
Muntz, W., 414, 476.  
Munz, F., 2283.  
Munz, F., and M. Zabel, 2140.  
Munzinger, W., 1971.  
Murakami, K., 2618.  
Murneek, A., 1182.  
*Murphy, E.*, see *Dunlop Rubber Co., Ltd.*  
*Murray, A.*, see *M. Beebe*.  
Murray, F., 1081.  
*Murray, H.*, see *W. Becker*.  
Murray, H., D. Spencer and Colour Photographs (Brit. & Foreign), Ltd., 894, 2502.  
*Murray, T. Jr.*, see *H. Gray*.  
Murray, T. Jr., and H. Gray, 1060.  
Murray, T., and C. Staud, 295, 1827, 2017, 2019, 2033.  
Murray, T., C. Staud and H. Gray, 996, 1146.  
Murumow, J., J. Sack and B. Tolens, 366.  
*Muschner, H.*, see *O. Hauser*.  
Muschner, H., 426.  
Muth, G., 379.  
Myers, F., 2602.  
Myers, F., and H. Smythe, 2602.  
N. V. Algemeene Kunstzijde, Unie., 2187.  
N. V. de Bataafsche Petroleum Maatschappij, 895, 997, 1261, 1870.  
Naam. Vennootschap de Bataafsche Petroleum-Maatschappij., and A. V. Peski, 1044.  
N. V. Drya, Maatschappij tot Exploitatie van Kunstzijdefabrieken, 997.  
N. V. Fabriek van Chem, Producten, 382, 427, 476, 695, 1038, 2084.  
N. V. "Fluida" Maatschappij tot Exploitatie van Kunstzijde fabrieken, 792, 896, 2084.  
N. V. Handelmaatschappij, 2499.  
N. V. Hollandsche Kunstzijde Industrie, 2182, 2187.  
Naamlooze Vennootschap "Hollandsche Proteine Maatschappij," 434.  
N. V. J. A. Carp's Garen-Fabrieken, 895, 1561, 2179.  
Naamlooze Vennootschap Nederlandsche Kunstzijdefabriek, 162, 696, 815, 817, 838, 909, 1038, 1073, 2116, 2122, 2190, 2198.  
Naamlooze Vennootschap Nederlandsche Kunstzijdefabriek and F. Beck, 92, 1797.  
N. V. Nederlandsche Linoleumfabriek, see *H. Boernstein*.  
Naamlooze Vennootschap Philips' Gloeilampen-fabrieken, 817, 2108, 2442.  
*Nadherny, A.*, see *K. Hazura*.  
*Naegeli, C.*, see *P. Karrer*.  
Nagai, Y., 1256.  
*Nagamote, T.*, see *T. Araki*.  
*Nagashima, T.*, see *G. Kita*.  
Nagel, O., 2047.  
*Nageli, C.*, see *P. Karrer*.  
*Nakai, R.*, see *S. Komatsu*.  
*Nakajima, S.*, see *G. Kita*.  
Nakano, M., 894.  
*Nakashima, T.*, see *G. Kita*.

- Nakashima, T.*, see *I. Sakurada*.  
Nakashima, T., 206, 207, 815, 997,  
1146, 1203, 1222, 1518, 1646, 1761,  
1762, 1767, 2626.  
Nakashima, T., and I. Sakurada,  
207, 1519, 1554, 1683.  
*Nanji, D.*, see *Abbey Syndicate Ltd.*  
*Nanji, D.*, see *A. Ling*.  
*Nara, M.*, see *S. Oguri*.  
Naray-Szabo, St. v. and G. Susich,  
697.  
Nash, C., 816, 997.  
Nash, C., and Bakelite Corp., 997.  
Nastjukoff, A., 1139, 1140, 1142.  
Nastukoff, A., 6.  
Nastukoff, A., and J. Kotjukow, 6.  
Nathan, F., and W. Rintoul, 2004.  
Nathan, F., W. Rintoul and F.  
Baker, 1805, 1956, 1969, 1975,  
2021, 2029.  
Nathansohn, A., 248, 894, 997, 997,  
1363, 1719, 2158, 2437.  
National Aniline Co., 2292.  
National Waterproof Film Co., 414.  
Nauck, W., 565.  
Naunton, W., 2055.  
*Nawiasky, P.*, see *I. G. Farbenin-*  
*dustrie*.  
*Nawiasky, P.*, see *M. Kardos*.  
*Nawiasky, P.*, see *R. Metzger*.  
Nawiasky, P., 197, 207, 1264, 2261,  
2277.  
Nawiasky, P., and O. Chrzescinski,  
2247.  
Nawiasky, P., and A. Krause, 2265,  
2634.  
Nawiasky, P., A. Krause and B.  
Stein, 2297.  
Nawiasky, P., B. Stein and A.  
Krause, 2263.  
Neale, J., 816.  
Neale, S., 1187.  
Nebel, W., 566, 1868.  
Nef, J., 1271, 1280, 1289, 1297,  
1298, 1995.  
Neher, H., and W. Lewis, 1500.  
*Nelson, J.*, see *S. Born*.  
Nelson, J., 655, 2110.  
Nelson, J., and S. Born, 441.  
*Nelson, J., Ltd.*, see *W. Haworth*.  
Nelson, W., and C. Engelder, 697.  
Nencki, M. v. and F. v. Heyden,  
1966.  
Neocellon, Ltd., 2482.  
*Neogi, P.*, see *P. Ray*.  
Nernst, 1776.  
Nes, G. van., 1155.  
*Neubauer, C.*, see *I. G. Farbenin-*  
*dustrie*.  
*Neubauer, C.*, see *C. Immerheiser*.  
Neubauer, C., 2576.  
Neue Glanzstoff Werke, A.-G., 1232.  
*Neuenstein, W. von*, see *E. Heuser*.  
Neuenstein, W. von, 697, 1222, 1355,  
1813.  
Neugröschl, S., 2608.  
Neuman, A., 2602.  
Neumann, A., and L. Zuckerbaeck-  
er, 2608.  
Neumann, G., 894, 1407.  
Neusella, A., 566.  
*Nevely, F.*, see *L. Kalb*.  
Newbauer, C., 2442.  
Newby, C., 816, 2400.  
New Jersey Patent Co., 430.  
*Newsome, P.*, see *S. Sheppard*.  
Newsome, P., and S. Sheppard,  
1095.  
Newtex Safety Glass Co., Ltd., and  
W. Dougan, 998, 1945, 2589.  
Newton, J., 895, 2588.  
Newton Vitreo-Colloid, Ltd., J.,  
2568.  
New York Wire Cloth Co., 2568.  
Neyman, C. de, 697.  
*Nicholson, J. & Sons, Ltd.*, see *A.*  
*Beck*.  
*Nicholson, V.*, see *C. Anderson*.  
Nickerson, F., 2606.  
Nicolardot, P., 1079.  
Nicole Freres, 2602.  
Niederhaeusern, G. de, 998, 2244.  
Niederist, G., 1296.  
*Niemann, C.*, see *K. Freudenberg*.  
*Nierenstein, M.*, see *A. Geake*.  
*Nierenstein, M.*, see *A. Gomm*.  
Nierenstein, M., 94, 1329.  
Niethammer, H., and W. Koenig,  
207, 1524.  
*Niethammer, W.*, see *E. Heuser*.  
*Nietz, A.*, see *S. Sheppard*.  
*Nieuviarts, E.*, see *J. Bourgeois*.  
Nieuwland, J., 998, 1855.  
Nieuwland, J., R. Vogt and W.  
Foohy, 895.  
*Nightingale, D.*, see *W. Bader*.  
*Nightingale, D.*, see *Brit. Cellulose*  
*& Chem. Mfg. Co., Ltd.*  
Nightingale, D., 680.  
Nihon, Tisso Hiryo K. K., and H.  
Hasimoto, 998.  
Nikolas, G., 566.  
Nikolsky, W., 2128.  
Nippon Chissohiryo Kabushiki Kai-



- sha, 998.  
 Nippon Chisso Hiryo Kabushiki-Kaisha and H. Hashimoto, 974.  
 Nishida, H., 432.  
 Nishida, H., 1358.  
 Nishida, K., *see* P. Karrer.  
 Nisizawa, Y., 295, 998, 1054, 1353, 1359.  
 Nitrogen Corp., *see* J. Clancy.  
 Nitrogen Corp., and J. Clancy, 566, 1796, 1798, 1799.  
 Nixon, E., *see* R. Bain.  
 Noack, E., 162.  
 Nobel, A., 1908, 1952, 1958, 2002, 2003, 2004.  
 Nobel Industries, Ltd., 698, 1925.  
 Nobel's Explosive Co., *see* W. Rintoul.  
 Nobel's Explosive Co., Ltd., 1871.  
 Noelting, E., and Rosenthal, 1141.  
 Nolan, T., *see* W. Rintoul.  
 Noll, A., 698, 1770, 1877, 1990, 2061.  
 Nollau, E., *see* H. Bradshaw.  
 Nollau, E., *see* J. McBurney.  
 Noller, C., 1056.  
 Nonamaker, F., 2188.  
 Non-Inflammable Film Co., Ltd., *see* H. Mallabar.  
 Non-Inflammable Film Co., 816, 2588.  
 Non-Inflammable Film Co., Ltd., and H. Mallabar, 699, 2526.  
 Non-Inflammable Film Co., Ltd., and D. Phillips, 248, 2526.  
 Non-Inflammable Film Co., Ltd., and G. Staley, 999.  
 Non-Inflammable Film Co., Ltd., and V. Yarsley, 295, 1572, 2442.  
 Nopitsch, M., 699, 809.  
 Norlin, E., *see* P. Klason.  
 Norman, G., 1955.  
 Norman, R., H. Boldemann and S. Jeurling, 2403.  
 Norman, W., 1199.  
 Norris, F., 1178.  
 Norris, J., 1291.  
 Norris, J., M. Watt and R. Thomas, 1291.  
 Norsk Alkali A. S., 476.  
 North, C., *see* British Celanese Ltd.  
 Nottelle, L., and R. Heraud, 404, 426, 1930.  
 Nottelle, L., and L. Leroux, 2607.  
 Notter, C., 476.  
 Nouvelle L'Oyonnithe, 1925.  
 Novelli, A., *see* L. Guglielmelli.  
 Novosilk, 699.  
 Novotny, E., 1938.  
 Nowakowski, A., 895, 1708, 2623.  
 Noyer, G., 427, 1924.  
 Nuckolls, A., 895.  
 Nüsslein, J., *see* H. Schütte.  
 Numa, M., 1201, 1223.  
 Nyanza Colour & Chemical Co., Inc., 2183.  
 Nye, J., and W. Stainer, 999, 2585.  
 Nyssens, A., *see* G. Tocco.  
 Oaksford, B., *see* W. Clifton.  
 Ober, E., *see* M. Luther.  
 Obrist, J., *see* O. Manfred.  
 Obst, W., 2609.  
 Ochsheim, R., 699.  
 Ockman, T., *see* British Celanese, Ltd.  
 Ockman, T., *see* H. Dreyfus.  
 Oddo, B., 476.  
 Oddo, G., 1113.  
 Oden, S., and S. Lindberg, 1193.  
 O'Dwyer, M., 1182.  
 Oechsner de Conick, W., *see* W. de Conick.  
 Oemhe, H., *see* Chemische Fabrik Kalk.  
 Oel & Fett-Chemie, G. m. b. H., 253, 2217.  
 Oertel, R., 1141.  
 Oesser, E., *see* R. Wolfenstein.  
 Offenbacher Celluloid Fabrik, 2606.  
 Ogden, S., 566, 817.  
 Oglesby, N., and D. Ehrenfeld, 1890.  
 Oguri, S., and M. Nara, 1108.  
 Oguri, S., and S. Terui, 1108.  
 Ohl, F., 817, 896, 999, 1038, 1051, 1063, 1079, 1089, 1410, 2074, 2556.  
 Ohle, H., 1503.  
 Ohlmeyer, P., *see* H. Pringsheim.  
 Ohno, K., 2047.  
 Ohsaka, S., 699.  
 Oiwa, K., *see* Takemura.  
 Okada, G., 1538.  
 Okada, H., 295, 1519.  
 Oldham, J., *see* J. Irvine.  
 Oldham, J., and J. Rutherford, 1508.  
 Oliver, B., 700.  
 Oliver, F., 2472.  
 Oliver, L., *see* W. Becker.  
 Olpin, C., 2662.  
 Olpin, H., *see* British Celanese, Ltd.  
 Olpin, H., *see* H. Dreyfus.  
 Olpin, H., *see* G. Ellis.

- Olpin, H., see D. Mosby.*  
 Olpin, H., 169, 1586, 2266, 2662.  
 Olsen, 2662, 2663.  
 Olsen, F., and H. Aaronson, 1149.  
 Olsen, J., 897.  
 Olsen, J., A. Brunjes and V. Sabetta, 2501.  
 Olson, 2662, 2663.  
 Olson, C., 93, 1574, 2537.  
 Omelyanskii, V., and M. Kononova, 1179.  
 O'Neil, A., 2126.  
 Onohara, J., *see G. Kita.*  
 Opel, T., 2602.  
 Opfermann, E., *see H. Heimann.*  
 Opfermann, E., O. Merlau and G. Feldtmann, 1152.  
 Oppenheim, C., *see O. Emmerling.*  
 Orcutt, C., 2472.  
 Orioli, 1038.  
 Orioli, E., *see Chatillon Soc. Anon. Italiana per la Seta Artificiale.*  
 Orioli, E., *see Ruth-Aldo Co., Inc.*  
 Orioli, E., 819.  
 Orioli, E., and Ruth-Aldo Co., 1681.  
 Orlandi, U., 1245.  
 Orlov, I., *see V. Ipatiev.*  
 Ormandy, W., 818.  
 Ormandy, W., and E. Craven, 2061.  
 Ortloff, H., *see W. Haller.*  
 Ortloff, H., *see W. Ostwald.*  
 Ortmann, R., 1888.  
 Orton, K., *see A. Smith.*  
 Orton, K., and A. Bradfield, 566, 700.  
 Osborne, J., *see G. Buchanan.*  
 Oschatz, F., *see I. G. Farbenindustrie, A.-G.*  
 Osmund, F., *see G. Witz.*  
 Ossenbeck, A., *see R. Engelhardt.*  
 Ossenbeck, A., *see W. Lommel.*  
 Ossenbrunner, A., *see M. Hagedorn.*  
 Ost, H., 25, 357, 358, 378, 406, 417, 418, 426, 477, 517, 651, 700, 1110, 1358, 1367.  
 Ost, H., and F. Katayama, 357.  
 Ost, H., and T. Katayama, 417, 477.  
 Ost, H., and F. Klein, 357, 1494, 1733.  
 Ost, H., and R. Prosiegel, 357, 1112.  
 Ost, H., and F. Westhoff, 1357.  
 Ost, H., F. Westhoff and L. Gessner, 357.  
 Ost, H., and L. Wilkening, 1141.  
 Ost, K., *see G. Balle.*  
 Ost, K., *see I. G. Farbenindustrie.*  
 Ostenberg, Z., 1135.  
 Ostermann, L., 1871.  
 Ostwald, W., *see K. Hess.*  
 Ostwald, W., 697, 1353, 1355.  
 Ostwald, W., and H. Ortloff, 1042, 1067.  
 O'Sullivan, C., and F. Tompson, 42.  
 Othmer, D., *see H. Clarke.*  
 Othmer, D., 999, 1043, 1047.  
 Ott, A., 1891.  
 Ott, E., 700, 1144, 1162.  
 Ott, K., *see I. G. Farbenind. A.-G.*  
 Ott, K., and K. Schaffganz, 1979.  
 Ott, K., and H. Schuessler, 296, 1181, 1628.  
 Otto, G., *see H. Pringsheim.*  
 Ottorepetz, V., 425, 2535.  
 Oulevay, A., *see F. Kehrman.*  
 Ow, M., *see also M. Ow-Eschingen.*  
 Ow, M., 700.  
 Ow-Eschingen, M., *see E. Pfiffner.*  
 Ow-Eschingen, M., 125, 248, 296, 1343, 1883, 2443.  
 Oxley, H., *see British Celanese Ltd.*  
 Ozawa, T., 1306.  
 Pacaud, L., *see H. Framery.*  
 Pacaud, L., and H. Framery, 2602.  
 Packman, P., *see F. Turner.*  
 Pacsu, E., 1508.  
 Pacsu, E., *see G. Zemplen.*  
 Padgham, G., 1340, 1945, 1989.  
 Padovani, C., and A. Mariotti, 897.  
 Päch, D., 2334.  
 Paersch, E., *see R. Herzog.*  
 Paget, L., *see C. Borgmeyer.*  
 Paget, L., 1869, 1874, 1962, 2045.  
 Paillet, J., 2142.  
 Paiseau, J., *see E. Heusch.*  
 Paiseau, J., 46, 431, 566, 701, 818, 999, 1891, 2617, 2619, 2620.  
 Paiseau-Feil, 818.  
 Paiseau-Feil, C., 46, 2618.  
 Palau, E., 818.  
 Palewski & Morin Co., 1805.  
 Palmer, C., *see J. Briggs.*  
 Palmer, C., *see British Celanese, Ltd.*  
 Palmer, C., *see British Cellulose & Chemical Mfr. Co., Ltd.*  
 Palmer, C., *see C. Dreyfus.*  
 Palmer, C., *see C. Ryley.*  
 Palmer, C., 213, 278, 701, 818, 2089, 2163, 2171.  
 Palmer, C., and W. Dickie, 567, 2075.  
 Palmer, C., and S. Fulton, 999,

- 2170, 2172, 2198, 2199.  
 Palmer, C., and W. Whithead, 49, 819, 1583.  
 Palmer, F., 701.  
*Palmer, R., see L. Hawley.*  
 Panoff, K., 343.  
 Papeteries Navarre, 897, 1171.  
*Paquet, A., see H. Hibbert.*  
 Paquin, M., and I. G. Farbenind. A.-G., 2028.  
 Parade, E., 477.  
 Parcofil A. G., 2121.  
 Park, J., and H. Hofmann, 1349, 1357.  
 Parker, B., 2567.  
 Parker, C., W. Kershaw, F. Barrett and Bleacher's Assoc., Ltd., 701, 2338, 2352.  
*Parker, F., see R. Willows.*  
 Parker, G., 701.  
 Parkert, O., 2610, 2611, 2619.  
 Parkes, A., 1789, 1797.  
 Parkes, H., 1796, 1798, 1814.  
 Parkin, W., and A. Williams, 377, 1866.  
*Parkinson, R., see British Celanese, Ltd.*  
*Parkinson, R., see C. Dreyfus.*  
*Parkinson, R., see H. Dreyfus.*  
 Parkinson, R., and F. Reeson, 1069.  
 Parks, G., 2539.  
 Parks, H., and A. van Heuckeroth, 1770.  
*Parnas, S., see H. Lachs.*  
*Parodi, se Bombrini.*  
 Parr, T., 2128.  
*Parsons, H., see P. Ridge.*  
*Parsons, J., see H. Hibbert.*  
 Parsons, J., 1143.  
 Partridge, E., 999, 1148.  
 Pascal, P., 701.  
*Paschke, F., see Vereinigte Glantzstoff-Fabriken, A.-G.*  
 Paschke, F., 414, 425, 1175.  
*Passerieu, A., see J. Camoin.*  
 Patchett, R., 701.  
 Paterno, E., 1244.  
*Paterson, B., see J. Irvine.*  
 Pathe Cinema, 93, 126, 162, 1546, 1566, 1575, 1579, 1833, 1842, 1898, 1902.  
 Pathe Cinema Anciens Etablissements Pathe-Freres, 702, 2526.  
*Patterson, J., see J. Irvine.*  
 Patterson, J., 1504.  
 Paul, C., 1981.  
*Paul, D., see T. Purdie.*  
*Pauli, F., see J. Rast.*  
 Pauthonier, V., 373, 420, 1864.  
 Pauthonier, V., and J. Antoine, 478.  
 Pavlov, P., 567.  
 Pavolini, T., 1175.  
*Paxton, S., see C. Shigley.*  
 Paxton, S., and C. Shigley, 2602.  
 Payen, A., 1161.  
 Payman, J., and Imperial Chemical Industries, 169.  
 Payman, J., H. Swann, W. Jenkins and Imperial Chemical Industries, Ltd., 202, 1941.  
 Payne, E., and S. Montgomery, 1268.  
*Payne, R., see British Celanese, Ltd.*  
 Payne, R., and R. Roberts, 1030.  
 Payras, G., 253, 1199, 1751.  
 P. B., 1149.  
 Peachey, S., 477, 1263, 1817.  
*Peacock, D., see W. Rintoul.*  
 Peacock, D., 126, 1596.  
 Peacock, D., and B. Menon, 1255, 1276.  
*Peake, A., see K. Wiesler.*  
 Pearl, A., 645, 1894, 2430.  
 Pease, W., 1000, 2505, 2529.  
*Peat, S., see W. Charlton.*  
*Peat, S., see W. Haworth.*  
 Pechin, L., 2596.  
*Pechiney, M., see Etablissements Poulenc Freres.*  
 Pechmann, H. v., 1292.  
 Peck, J., 423.  
 Peddler, J., and Courtaulds, Ltd., 2124.  
 Peiser, E., 739, 1153, 1492, 1493.  
*Peligot, E., see J. Dumas.*  
*Pelikan, E., see A. Friedrich.*  
 Pellerin, A., 46, 384, 477, 1414.  
 Penniman, W., W. Randall, C. Miller and L. Enslow, 1280.  
*Percival, E., see W. Haworth.*  
 Percival, E., A. Cuthbertson and H. Hibbert, 1203.  
 Percival, S., 2123.  
 Perdrizet, P., 2611, 2616.  
 Perelzveich, V., and G. Rosenbusch, 364, 2480.  
*Peres, J., see M. Favresse.*  
*Periam, H., see J. Chamberlain.*  
 Perkin, F., and L. Pratt, 1932.  
*Perkin, W., see British Dyestuffs Corp., Ltd.*  
 Perkin, W., 1255, 1262, 1274, 1296, 1886, 1966.

- Perl, J., 1039, 1930, 1949.  
 Persch, P., 2128.  
 Persiel, H., 241, 2437, 2468, 2573.  
 Persiel, H., G. Balle and K. Sponsel, 1666, 2454, 2577.  
 Persoz, 1139.  
 Pesch, T., 1000, 1079, 2584.  
 Pesch, T., and L. Lausberg, 2597.  
 Peski, A., *see* Naam. Vennootschap de Bataafsche Petroleum-Maatschappij.  
 Peski, A. van, 1995.  
 Pestele, L. de, and A. Dujardin, 1179.  
 Peters, A., *see* I. G. Farbenindustrie, A.-G.  
 Peters, C., 1000.  
 Peters, G., *see* P. Duden.  
 Peters, G., *see* Hercules Powder Co.  
 Peters, G., 1905, 1918.  
 Peters, H., 393, 477, 1381, 1865, 1908, 1909.  
 Peters, H., and H. Collum, 404.  
 Peters, O., *see* B. Helferich.  
 Petersen, I., *see* H. Heimann.  
 Petersen, I., and C. Angelbrecht, 1000.  
 Peterson, C., *see* M. Bray.  
 Peterson, C., *see* E. Schafer.  
 Peterson, F., and C. Spencer, 702.  
 Peterson, W., *see* R. Allgeier.  
 Peterson, W., and E. Fred, 1039.  
 Petit, A., 2602.  
 Petitdidier, R., and F. Feynier, 1000, 2281, 2325.  
 Petrenko-Kritschenko, P., V. Bogatsky and N. Loubman, 702.  
 Petroczy, S. v., 424.  
 Petroff, G., 2580.  
 Petsch, W., *see* K. Maurer.  
 Petzold, M., 1247.  
 Peuschel, A., 425.  
 Peyer, J., *see* P. Karrer.  
 Peyrusson, E., 1939.  
 Peytral, E., 567.  
 Pfannenstiël, H., *see* I. G. Farbenindustrie.  
 Pfannenstiël, H., *see* H. Meyer.  
 Pfannenstiël, H., *see* W. Schieber.  
 Pfeffer, E., *see* I. G. Farbenindustrie.  
 Pfeffer, E., *see* M. Kerth.  
 Pfeffer, E., *see* A. Schmidt.  
 Pfeffer, E., 208, 296, 2239, 2304, 2326.  
 Pfeffer, E., E. Fischer and I. G. Farbenindustrie, A.-G., 2240.  
 Pfeffer, E., and I. G. Farbenindustrie, 2240.  
 Pfefferkorn, E., *see* L. Ludwig.  
 Pfeifer, J., and E. Szarvasy, 1251.  
 Pfiffner, E., *see* Dubilier Condenser Co., Ltd.  
 Pfiffner, E., 126, 127, 296, 567, 702, 703 1343, 2443, 2527.  
 Pfiffner, E., and M. Ow-Eschingen, 93.  
 Pflug, K., 2006.  
 Phelps, F., and C. Purves, 1501.  
 Philia, M., 1153.  
 Phillips, Evelyn L., 2857.  
 Phillips, A., 567.  
 Phillips, D., *see* Non-Inflammable Film Co., Ltd.  
 Phillips, J., *see* H. Hibbert.  
 Phillips, M., and M. Goes, 1175.  
 Phillips, R., *see* Gross, Sherwood & Heald, Ltd.  
 Phillips, R., and H. Thurlow, 1985.  
 Philpot, B., 2602, 2603.  
 Phipps, H., 703.  
 Phonofilm Syndicate, 2603.  
 Pichlmayr, H., *see* K. Hess.  
 Pickard, J., *see* H. Hele-shaw.  
 Pickering, S., 1253.  
 Pictet, A., and M. Gaulis, 252.  
 Pictet, A., and J. Sarasin, 1107, 1132.  
 Pictet, A., and H. Vogel, 885.  
 Picton, N., *see* W. Rintoul.  
 Pieper, E., 2393.  
 Pierce, S., 2608.  
 Pierch, K., *see* I. G. Farbinind. A.-G.  
 Pierman, A., *see* W. Miller.  
 Pierre, J., 1254.  
 Piest, C., 1358.  
 Piest, C., and A. Herve, 1680.  
 Piestrak, A., 477, 1864.  
 Piestrak, C., *see* B. Gaisenband.  
 Piestrak, C., 93, 1942.  
 Piette, O., *see* A. Damiens.  
 Pigg, C., 1867.  
 Pike, H., 1000.  
 Pillion, N., 1909.  
 Pimental, 2662.  
 Pimentel, 2662.  
 Pin, E., 478.  
 Pinault, R., 1001.  
 Pinay, Les Fils, *see* P. Prost.  
 Pinel, A., 1243.  
 Piogey, R., 2607.  
 Pitman, E., 703, 1358, 1857.  
 Pittenger, W., *see* L. Cretcher.

- Pittinger, L., 567.  
 Pittius, C. van, 395.  
 Planovskii, N., and V. Laryushkina, 1089.  
*Plant, M., see W. Haworth.*  
*Plant, S., see N. Sidgwick.*  
 Plastic Moulding Co., Ltd., 2567.  
*Platt, H., see British Celanese, Ltd.*  
*Platt, H., see C. Dreyfus.*  
 Platt, H., 567, 746, 1001, 2139, 2140, 2203, 2322, 2325, 2337, 2358.  
 Platt, H., and C. Croft, 2158, 2361.  
 Platt, H., and C. Dreyfus, 175, 747, 748, 862, 863, 2197, 2329, 2347.  
 Platt, H., W. Whitehead and F. Williams, 1001.  
*Platt, J., see E. Knecht.*  
*Platts, T., see British Celanese, Ltd.*  
 Plauson, H., 93, 567, 568, 1253, 1412, 1995, 2056.  
 Plauson, H., and J. Vielle, 568.  
 Plauson's, Ltd., 1238.  
 Plausons Forschungsinstitut, 478.  
 Play, le P., 703, 2544.  
*Pletts, J., see R. Haines.*  
 Pletts, J., 2603.  
 Plinatus, W., 162, 423, 427, 569, 819, 897, 1921, 1923, 1925, 1961, 1965, 2465.  
*Plischke, K., see G. Keil.*  
 Plumbridge, D., 2128.  
*Poelman, A., see Etabl. R. Schneider.*  
*Poetzsch, G., see I. G. Farbenindustrie.*  
*Poggioli, J., see G. Jakowa-Mertui.*  
 Pokorny, J., 703.  
*Polanyi, M., see R. Herzog.*  
 Polden, D., and British Safety Glass Co., 2586.  
 Politzer, A., 2128.  
 Pollak, F., 478, 569, 1864, 2030, 2054.  
 Pollak, F., and K. Ripper, 2030.  
 Pollak, J., and A. Baar, 1265.  
 Pollak-Rudin, R., 2606.  
 Pollard, A., and J. Whincop, 1172, 1409.  
 Pollopos, Ltd., E. C. Baly and E. J. Baly, 2054.  
 Polotsky, A., 448, 1697.  
 Polygraphische Ges., 2499.  
 Polyphonwerke, A.-G., 703, 2605.  
 Pondorf, W., 1264.  
*du Pont, de Nemours, E. I., see H. Hibbert.*  
*du Pont de Nemours, Co., E. I., see W. Weedon.*  
 du Pont de Nemours Co., E. I., 112, 145, 187, 188, 203, 230, 779, 863, 1033, 1262, 1270, 1413, 1448, 1575, 1589, 1808, 1809, 1839, 1848, 1854, 1857, 1865, 1921, 1923, 1941, 1972, 1975, 1989, 1995, 2000, 2409, 2412.  
 du Pont de Nemours, E. I. & Co., and Soc. Chim. des Usines du Rhone Florentin Biduad, 779.  
*Pontifex & Sons, H., see F. Early.*  
 Poole, H., 703.  
 Pooley, H., and G. Scott & Son, 2128.  
*Pope, W., see J. Huebner.*  
*Popoff, M., see A. Schaarschmidt.*  
 Porat, K. von, 1162.  
 Porter, A., 2459.  
*Porter, C., see W. Haworth.*  
*Porter, C., see H. Ramsperger.*  
*Pospiech, F., see R. Sajitz.*  
 Poste, E., 1047.  
 Potiez, A., 2616.  
 Potter, E., 2581.  
 Potter, J., 1358.  
 Pottevin, H., 42.  
 Poulton, F., 2480.  
 Pouret, C., 1254.  
 Pouteaux, A., 569, 1961, 2565.  
 Povarnin, G., and V. Markov, 569.  
 Powell, R., 1098.  
 Powell, W., and H. Whittaker, 1176, 1632.  
*Prachel, C., see L. Branchen.*  
 Prachel, C., and L. Branchen, 162, 1361.  
 Pratt, H., 897.  
*Pratt, L., see F. Perkin.*  
 Pratt, W., and R. Halstead, 1039.  
*Pratt & Lambert, see H. Ross.*  
*Precious Metal Industries, Ltd., see A. Gates-Warren.*  
 Pregl, F., 1491.  
 Preiswerk, E., 1938.  
*Preobrazhenskii, N., see O. Magidson.*  
 Pressloid Co., 2611, 2616.  
 Preston, J., 897, 2307.  
 Prettre, M., 1108.  
 Price, H., 704, 1001.  
 Price, T., 1274.  
 Price, W., 2540.  
*Priestley, E., see L. Lloyd.*  
*Prillwitz, H., see A. Laska.*  
 Prince, E., 2102, 2115.  
 Prince, E., and Soc. Chim. des

- Usines du Rhone, 569.  
*Prindle, K.*, see *W. Charch*.  
 Pringsheim, H., 101, 704, 1152, 1155, 1157, 1160, 1471.  
 Pringsheim, H., and A. Aronowsky, 827, 1159, 1194, 1492.  
 Pringsheim, H., and H. Braun, 1163.  
 Pringsheim, H., and I. Fellner, 1158.  
 Pringsheim, H., and O. Gerngross, 1158.  
 Pringsheim, H., and A. Gorgas, 93, 1883.  
 Pringsheim, H., and W. Hensel, 1157.  
 Pringsheim, H., E. Kasten and E. Schapiro, 898.  
 Pringsheim, H., W. Knoll and E. Kasten, 1162.  
 Pringsheim, H., and W. Kusenack, 1162.  
 Pringsheim, H., W. Kusenack and K. Weinreb, 704, 1356.  
 Pringsheim, H., and M. Lassmann, 1492, 1495.  
 Pringsheim, H., and J. Liebowitz, 93, 1162.  
 Pringsheim, H., J. Liebowitz, A. Schreiber and E. Kasten, 711.  
 Pringsheim, H., E. Lorand and K. Ward, 1066.  
 Pringsheim, H., and H. Magnus, 897.  
 Pringsheim, H., and P. Meyersohn, 1493.  
 Pringsheim, H., G. Otto and J. Katz, 898.  
 Pringsheim, H., and J. Reilly, 1158.  
 Pringsheim, H., and D. Routala, 1163.  
 Pringsheim, H., and E. Shapiro, 704.  
 Pringsheim, H., and K. Ward, 1053.  
 Pringsheim, H., A. Weidinger and P. Ohlmeyer, 1001.  
 Pringsheim, H., K. Weinreb and E. Kasten, 704.  
*Privinsky, F.*, see *F. Henle*.  
*Probert, M.*, see *R. Fargher*.  
*Probert, M.*, see *L. Lecomber*.  
 Procèdes et Produits Chimiques, 1001.  
*Prochownick, V.*, see *H. Schlubach*.  
 Prod. Chimique Etablissements Maletta, 705.  
*Prosiegel, R.*, see *H. Ost*.  
 Prost, P., and Les Fils Pinay, 376.  
*Protassowa, N.*, see *J. Michailenko*.  
 Proveux, H., 2057.  
 Pryde, J., and R. Humphreys, 1500, 1502.  
 Pum, G., 2536.  
 Pum, G., and A. Glaessner, 478.  
 Punfield & Barstow, Ltd. 2567.  
 Puntambeker, S., and E. Zoellner, 705.  
 Puppe, F., 1098.  
 Purdie, T., and R. Bridgett, 42, 1509.  
 Purdie, T., and J. Irvine, 2, 42, 1509, 1510.  
 Purdie, T., and D. Paul, 42, 1505.  
 Purdie, T., and R. Rose, 1498.  
 Purdie, T., and C. Young, 1498.  
*Purves, C.*, see *H. Gilchrist*.  
*Purves, C.*, see *E. Hirst*.  
*Purves, C.*, see *F. Phelps*.  
 Putnam, M., 569.  
 Putnam, M., and W. Kirst, 569.  
 Quait, R., 705, 1882.  
 Quittner & Co., 456.  
*Raabe, Akt. Ges. B.*, see *P. Roeder*.  
*Rabald, E.*, see *R. Müller*.  
*Rabe, P.*, see *H. Berthold*.  
*Rabe, P.*, see *Farbenfabriken*.  
*Rabe, P.*, see *I. G. Farbenindustrie, A.-G.*  
 Rabe, P., 672, 2032, 2222, 2235, 2237.  
 Rabe, P., and W. Schepss, 2222.  
 Rabe, R., 705.  
*Rabinowicz, I.*, see *H. Wolff*.  
*Rabinowitsch, B.*, see *R. Eisen-schitz*.  
*Rabinowitsch, B.*, see *K. Weissenberg*.  
 Rabinowitsch, B., 819, 1001.  
 Racky, G., 1857, 2016, 2021.  
 Racky, G., and Chemische Fabriken vorm. Weiler-ter Meer, 507.  
 Radcliffe, J., 478.  
*Radestock, H.*, see *A. Lottermoser*.  
 Rado, L., 819, 898, 2392, 2448, 2599.  
*Raduner & Co., A. G.*, see *Sallmann, R.*  
*Raeck, M.*, see *O. Siebert*.  
*Raehnel, W.*, see *W. Herrmann*.  
 Raison Sociale Siebert, 370.  
 Raikow, P., 2061.

- Raison Sociale Jasset, Bernadac  
 Firma & Kowachiche, 2618.  
 Ralph, W., 1087.  
 Rambaud, L., *see* A. Tixier.  
 Rambousek, J., 1266.  
 Ramsay, A., *see* McTavish, Ram-  
 say & Co.  
 Ramsay, W., *see* J. Chorley.  
 Ramsay, W., and S. Lewis, 429.  
 Ramsbottom, J., 570, 2482.  
 Ramsperger, H., 705.  
 Ramsperger, H., and C. Porter, 705.  
 Rand, J., 2608.  
 Randall, F., *see* Imperial Chemical  
 Industries, Ltd.  
 Randall, F., *see* A. Levesley.  
 Randall, J., 1493.  
 Randall, W., *see* W. Penniman.  
 Rasch, R., *see* G. Richter.  
 Randolph, A., 1905.  
 Raschig, F., 587, 1859, 1981.  
 Rassow, B., 570, 1211.  
 Rassow, B., and W. Aehnelt, 208,  
 1370.  
 Rassow, B., and A. Reckeler, 1051.  
 Rassow, B., and K. Schwarze, 1194.  
 Rassow, B., and M. Wadewitz, 1206,  
 1210, 1356.  
 Rassow, B., and L. Wolf, 1194.  
 Rassow, B., and P. Zickmann, 252.  
 Rast, J., F. Kummer and F. Pauli,  
 2111.  
 Rau, H., *see* K. Freudenberg.  
 Rauch, H., 478.  
 Rawling, F., 705.  
 Ray, P., and P. Neogi, 1257.  
 Raynaud, A., *see* W. de Conick.  
 Raynaud, E., 486.  
 Rea, A., *see* N. Mattingley.  
 Rea, H., and R. Mullinx, 1154.  
 Reaumur, 2067, 2612.  
 Reber, E., 1931.  
 Reckeler, A., *see* B. Rassow.  
 Rector, T., *see* G. Coggeshall.  
 Reddelien, G., and G. Matzdorf,  
 2261.  
 Reddelien, G., and W. Mueller, 819.  
 Redlich, F., 479, 570, 1950.  
 Redman, L., 736, 1253, 1873, 1890,  
 2559.  
 Reed, D., 2603.  
 Reed, J., *see* S. Sugden.  
 Reedy, H., 898.  
 Reese, T., 1097.  
 Reeser, 381.  
 Reeser, H., 377, 1858.  
 Reeson, F., *see* British Celanese,  
 Ltd.  
 Reeson, F., *see* R. Parkinson.  
 Regensburger & Co., Kommandit-  
 Ges., 820, 2620.  
 Regis, F., *see* F. Kehrmann.  
 Regnault, V., 1252, 1257, 1274.  
 Reh, A., *see* K. Hess.  
 Reichert, O., *see* M. Hagedorn.  
 Reichert, O., *see* I. G. Farbenind.,  
 A.-G.  
 Reichhold, Flügger & Boecking  
 Stadlauer Lackfabrik, 479.  
 Reid, D., 430, 1819.  
 Reid, E., *see* R. Frazier.  
 Reid, E., *see* C. Henning.  
 Reid, E., *see* H. Hoffman.  
 Reid, E., *see* C. Milligan.  
 Reid, E., 705, 1054, 1361, 1616, 1971,  
 1973, 1976.  
 Reid, E., and H. Hoffmann, 1876.  
 Reid, E., and G. Schwartz, 898,  
 1992, 2397.  
 Reid, G., 1876.  
 Reid, H., W. Hovey and Canadian  
 Electro Products Co., 617.  
 Reid, W., and E. Earle, 2056.  
 Reif, N., 2603.  
 Reilly, A., *see* J. Collie.  
 Reilly, A., 2218.  
 Reilly, J., *see* H. Pringsheim.  
 Reilly, J., 94, 1328.  
 Reilly, J., and P. Donovan, 1157.  
 Reilly, J., M. Hayes and P. Drumm,  
 1163.  
 Reilly, J., and D. McSweeney, 1156.  
 Reilly, J., R. Wolter and P. Dono-  
 van, 898.  
 Reimann-Bauasphalt G. m. b. H.,  
 1001.  
 Reinsch, O., 2619.  
 Reinthaler, F., 705.  
 Reisse, E., 3.  
 Reitstoetter, 479.  
 Reitstoetter, J., 570.  
 Reko, V., 2603.  
 Reliance, Ltd., 2567.  
 Remaek, H., 706, 2223.  
 Remler, R., 570, 1879.  
 Renker, M., 162, 706, 1921, 2542.  
 Rensch, M., 249, 2404.  
 Rennselaer, K. van, and H. Swan-  
 son, 1149.  
 Renwick, F., *see* F. Shephard.  
 Renwick, F., 706, 1864.  
 Retze, E. von, 706.  
 Reubold, F., *see* R. Strehlenert.  
 Revell, R., and T. Barnard, 2603.

- Revillon, G.*, see *L. Meunier*.  
*Reyle, B.*, see *M. Hagedorn*.  
*Reynard, J.*, 2603.  
*Reynolds, J.*, 706, 2223.  
*Rheiner, A.*, 706, 2331, 2439.  
*Rheinische Gummiwaarenfabrik m. b. H.*, see *F. Clouth*.  
*Rheinische Gummi- und Zelluloidfabrik*, 1808, 1937, 2020, 2055, 2058.  
*Rheinische Hartgummiwaaren-Fabrik*, 2619.  
*Rheinisch-Westfälische Sprengstoff A. G.*, see *E. Seyfferth*.  
*Rheinisch - Westfälische Sprengstoff, A. G.*, 101, 570, 2058, 2568.  
*Rhodin, J.*, and *E. Westman*, 706.  
*Ricard, E.*, 706, 798, 2024.  
*Ricard, E.*, and *H. Guinot*, 798, 1001, 1002, 1039, 1045.  
*Rice, G.*, 1180.  
*Rice, J.*, 1002.  
*Richard, P.*, 3.  
*Richardson, L.*, see *J. Briggs*.  
*Richardson, L.*, see *Brit. Cellulose & Chem. Mfg. Co., Ltd.*  
*Richardson, L.*, 570.  
*Richmond, V.*, 1806, 2482.  
*Richter, A.*, 1167, 1168.  
*Richter, E.*, see *I. G. Farbenindustrie, A.-G.*  
*Richter, E.*, 296, 2431.  
*Richter, E.*, and *W. Becker*, 2399.  
*Richter, E.*, *K. Bitterfeld and W. Becker*, 899.  
*Richter, E.*, *M. Hagedorn and W. Becker*, 2432.  
*Richter, G.*, 1231, 2599.  
*Richter, G.*, and *M. Schur*, 1002, 1168.  
*Richter, G.*, *M. Schur and R. Rasch*, 1169.  
*Richter, H.*, 1843.  
*Richter, J.*, 405, 479.  
*Richtmayer*, 2662.  
*Richtmyer*, 2662.  
*Richtmyer, N.*, see *K. Freudenberg*.  
*Ridge, B.*, see *D. Clibbens*.  
*Ridge, B.*, 1148.  
*Ridge, P.*, *H. Parsons and M. Corner*, 1002.  
*Ridley, F.*, 707.  
*Rie & Sohn, P.*, 2567.  
*Riemann, O.*, 1155.  
*Rieth, R.*, see *F. Beilstein*.  
*Rigby, G.*, 1177.  
*Rile, J.*, see *Hercules Powder Co.*  
*Riley, L.*, 425, 479, 1920.  
*Riley, R.*, see *British Celanese, Ltd.*  
*Riley, R.*, see *H. Dreyfus*.  
*Riley, R.*, 1039.  
*Riley, R.*, and *Imperial Chemical Industries, Ltd.*, 803, 1002.  
*Riley, T.*, see *Standard Telephones & Cables, Ltd.*  
*Rinkenbach, W.*, see *C. Taylor*.  
*Rinkenbach, W.*, 707, 1847.  
*Rinman, E.*, 1246, 1414.  
*Rinoldi, L.*, 1089.  
*Rintoul, W.*, see *F. Nathan*.  
*Rintoul, W.*, and *D. Cross*, 1908, 1956, 2004, 2005.  
*Rintoul, W.*, *D. Cross and Nobel's Explosives Co.*, 2004, 2029.  
*Rintoul, W.*, and *T. Nolan*, 1956.  
*Rintoul, W.*, *T. Nolan and Nobel's Explosives*, 2004.  
*Rintoul, W.*, *T. Nolan and O. Strickland*, 2019.  
*Rintoul, W.*, *N. Picton, D. Peacock & Nobel's Explosives Co.*, 2004.  
*Rintoul, W.*, *J. Thomas and Nobel's Explosives*, 2004.  
*Rioumin, G.*, see *A. Aksipetrov*.  
*Ripper, K.*, see *F. Pollak*.  
*Risler, H.*, 2128.  
*Risse, F.*, see *I. G. Farbenindustrie*.  
*Risse, F.*, and *E. Fischer*, 208, 2256, 2478.  
*Ritschke, A.*, 1906.  
*Ritsert, E.*, 1155.  
*Rittenhouse, C.*, and *C. Staud*, 1002.  
*Rivat, G.*, see *British Celanese, Ltd.*  
*Rivat, G.*, see *E. Cadgene*.  
*Rivat, G.*, see *C. Dreyfus*.  
*Rivat, G.*, 615, 2145, 2205.  
*Rivat, G.*, *E. Cadgene and C. Dreyfus*, 127, 615, 2145, 2298.  
*Rivat, G.*, and *C. Dreyfus*, 2205.  
*Riviere, C.*, see *L. Clement*.  
*Riviere, C.*, see *Courtaulds, Ltd.*  
*Rivise, C.*, 208.  
*Rize*, see *Farberci de la Rize*.  
*Riberts & Co.*, see *T. Durrans*.  
*Roberts & Co.*, see *N. Sidgwick*.  
*Roberts, F.*, see *Calico Printers' Assoc., Ltd.*  
*Roberts, H.*, see *T. Ewan*.  
*Roberts, K.*, 1931, 1932.  
*Roberts, R.*, see *J. Briggs*.  
*Roberts, R.*, see *British Celanese, Ltd.*  
*Roberts, R.*, see *H. Dreyfus*.  
*Roberts, R.*, see *R. Payne*.



- Roberts, R., see W. Taylor.*  
*Roberts, R., R. Dean and L. Gregory, 2076.*  
*Roberts, R., and L. Gregory, 2639.*  
*Robertson, E., 899, 2223.*  
*Robertson, G., see E. Hirst.*  
*Robertson, G., see J. Irvine.*  
*Robertson, J., 820, 2585, 2588.*  
*Robertson, R., see R. Craig.*  
*Robinoff, G., see C. Schwalbe.*  
*Robinson Bros., Ltd., see W. Butler & Co., Ltd.*  
*Robinson, C., 570.*  
*Robinson, E., 479, 1804, 1869.*  
*Robinson, F., 899.*  
*Robinson, R., see S. Carter.*  
*Robinson-Bindley, W., see A. Weller.*  
*Robinson-Bindley, W., and A. Weller, 570.*  
*Robinson-Bindley, W., A. Weller and E. Dulcken, 480.*  
*Robson, A., see J. Hirsh.*  
*Rocha, H., 899.*  
*Rocker, G., and E. Middleton, 1857.*  
*Rodd, E., see Imperial Chemical Industries, Ltd.*  
*Rodd, E., see L. Lawrie.*  
*Rodebush, W., 1921.*  
*Rodger, J., see T. Thorpe.*  
*Rodionow, W., 1298.*  
*Röder, P., and B. Raabe, 425, 2536.*  
*Roehm, O., 249, 2456.*  
*Roehm, R., see S. Klausner.*  
*Röhm & Haas, see R. Herzog.*  
*Röhm & Haas, A.-G., 1079, 1427, 1954, 1994, 2589.*  
*Roehm & Haas, A. G., and R. Herzog, 208, 820, 1954.*  
*Roelandts, G., 1905, 1971.*  
*Rössler, see Deutsche Gold & Silber-Scheideanstalt.*  
*Roest-Grande, A., see E. Hubert.*  
*Roest-Grande, A., see I. G. Farben-ind., A.-G.*  
*Roetel, B., 707.*  
*Rogers, A., 2393.*  
*Rogers, L., see C. Dreyfus.*  
*Rogers, T., see W. Baldisiefen.*  
*Roggenkaemper, E., 378, 480.*  
*Rohde, K., 1044.*  
*Rohlfs, H., 1077.*  
*Roka, K., 571.*  
*Roka, K., and O. Fuchs, 1002.*  
*Roland, R., 820, 1039, 2566.*  
*Roland Fireproof Celluloid Corp., 1961.*  
*Rolfe, A., see Moelwyn-Hughes, E.*  
*Rolland, J., see A. Cassal.*  
*Rolland, J., see A. Wahl.*  
*Rolland, J., 1003.*  
*Rollett, A., see F. Klatte.*  
*Romahn, A., 94.*  
*Romain, A., 2020.*  
*Romocki, S. v., 2003.*  
*Rooney, J., see British Celanese, Ltd.*  
*Rooney, J., see W. Dickie.*  
*Roos, A., see F. Krafft.*  
*Roos, K., see V. Bayerl.*  
*Roos, K., see H. Friese.*  
*Roos, K., 820, 900, 1003, 2121.*  
*Roos, K., and H. Friese, 820, 900.*  
*Roosevelt, A., 480, 2588.*  
*Roscow, J., 2151.*  
*Rose, R., see J. Irvine.*  
*Rose, R., see T. Purdie.*  
*Rose, R., and H. Cude, 1493.*  
*Rose, R., H. Cude and General Rubber Co., 900.*  
*Rosen, B., see H. Wolff.*  
*Rosen, J., 2611, 2616, 2619.*  
*Rosenbaum, C., and J. Walton, 900.*  
*Rosenberg, G. v., see K. Holzach.*  
*Rosenbusch, G., see V. Perelzveich.*  
*Rosenmund, K., 480.*  
*Rosenthal, see E. Noelting.*  
*Rosenthal, J., 486.*  
*Rosenthal, L., see E. Doerr.*  
*Rosenthal, L., see Farbenfabriken.*  
*Rosenthal, L., see I. G. Farbenindustrie.*  
*Rosenthal, L., 1036, 1840, 2425.*  
*Rosenthal, L., and R. Hebermehl, 2425.*  
*Rosenthal, L., E. Messmer and R. Hebermehl, 1366, 1565, 2014.*  
*Ross, H., 571, 1863, 1927.*  
*Ross, H., and Pratt & Lambert, 571.*  
*Ross, O., see P. Gerli.*  
*Ross, W., 1885.*  
*Rossbach, E., see M. Hagedorn.*  
*Rossbach, E., see I. G. Farbenindustrie.*  
*Rossi, E., 2567.*  
*Rossiter, E., see British Cyanides Co., Ltd.*  
*Rossman, J., 707, 900, 1173.*  
*Rossville Company, The, 1833.*  
*Roth, C., 1165.*  
*Roth, E., see A. Giebmans.*  
*Roth, E., 1003.*  
*Rothberg, P., and A. Sachs, 1901, 1906.*

- Roth-Schmidt, E.*, see *K. Bratring*.  
*Roth-Schmidt, E.*, 900, 1003.  
*Rott, A.*, 900.  
*Rottenberg, L.*, 707.  
*Rouilleux, M.*, and *R. Dort*, 571.  
*Roumazeilles, M.*, see *A. Girard*.  
*Round, A.*, see *Dunlop Rubber Co., Ltd.*  
*Rouse, W.*, see *R. Glazebrook*.  
*Rousset, J.*, 571, 2371.  
*Routala, O.*, see *H. Fringsheim*.  
*Rouxville, E.*, 1806.  
*Row, P.*, see *H. Shonle*.  
*Rowe, A.*, 2606.  
*Rowe, J.*, see *D. Williams*.  
*Rowe, J.*, 707, 2587.  
*Rowell, S.*, see *H. Golding*.  
*Rowell, S.*, see *Imperial Chemical Industries, Ltd.*  
*Rowell, S.*, and *Imperial Chemical Industries, Ltd.*, 803.  
*Rowland, A.*, 571.  
*Rowson, S.*, 1039.  
*Roy, G.*, 707.  
*Roy, H.*, see *British Cellulose & Chemical Mfr. Co., Ltd.*  
*Roy, N.*, 480.  
*Roybier, V.*, 2608.  
*Roza, J. de la*, 1409.  
*Rubber Service Laboratories Co.*, see *C. Hand*.  
*Rudolph, G.*, 708, 820, 900, 1072, 1089, 2291, 2312.  
*Rudy, H.*, 900, 969, 1003, 1694.  
*Rueff, G.*, see *H. Berl*.  
*Ruell, D.*, see *W. Haworth*.  
*Ruiz, C.*, see *L. Guglielmelli*.  
*Rumbold, J.*, 1203.  
*Runge, W.*, 2603.  
*Runge, W.*, and *H. Curtis*, 2127.  
*Runkel, R.*, and *G. Lange*, 1176.  
*Runkl, F.*, 528.  
*Ruppel, W.*, see *E. Heuser*.  
*Ruppert, A.*, *W. Fischer*, *J. Voigt* and *B. Hennig*, 1068.  
*Ruppert, F.*, see *F. Collischonn*.  
*Ruppert, F.*, 480.  
*Rusch, A.*, 481.  
*Russell, A.*, and *J. Hegeman*, 901.  
*Russell, F.*, and *A. Jung*, 2603.  
*Ruth, G.*, *Akt. Ges.*, and *E. Asser*, 249, 481, 1965, 1966, 2415.  
*Ruth-Aldo Co.*, see *H. Barthelemy*.  
*Ruth-Aldo Co.*, see *E. Orioli*.  
*Ruth-Aldo Co.*, 249, 820, 821, 822, 901, 1003, 1406, 1408, 1411, 2097, 2113, 2367.  
*Ruth-Aldo Co., Inc.*, and *H. Barthelemy*, 821, 1003.  
*Ruth-Aldo Co., Inc.*, and *E. Orioli*, 822.  
*Rutherford, J.*, see *J. Irvine*.  
*Rutherford, J.*, see *J. Oldham*.  
*Rutstein, L.*, see *E. Worden*.  
*Rutstein, L.*, 571, 822, 2603, 2604.  
*Ruzicka, C.*, 708, 822, 823, 902, 1739, 2109, 2115.  
*Ryan*, see *J. McKechnie*.  
*Ryan, A.*, see *Vickers, Ltd.*  
*Ryan, H.*, and *J. Drumm*, 2024.  
*Ryan, V.*, 973.  
*Ryland, G.*, 587.  
*Ryley, C.*, see *British Celanese, Ltd.*  
*Ryley, C.*, see *British Cellulose & Chemical Mfr. Co., Ltd.*  
*Ryley, C.*, and *G. Awcock*, 1003, 2141.  
*Ryley, C.*, *G. Awcock* and *Brit. Celanese, Ltd.*, 2141.  
*Ryley, C.*, *C. Palmer*, *S. Welch* and *Celanese Corp.*, 823.  
*Sabatier, P.*, and *J. Senderens*, 2006.  
*Sabetta, V.*, see *J. Olsen*.  
*Sabrou*, see *A. Mailhe*.  
*Sachs, A.*, see *P. Rothberg*.  
*Sachs, A.*, 1752.  
*Sachs, W.*, 94, 2310, 2377.  
*Sachse & Co.*, 2616.  
*Sack, J.*, see *J. Murumow*.  
*Sadtler, S.*, see *H. Bassett*.  
*Sadtler, S.*, 2127.  
*Safety Celluloid Co.*, 384, 414.  
*Sagar, H.*, see *Breda-Visada, Ltd.*  
*Sah, P.*, 708.  
*Sahasranam, A.*, see *P. King*.  
*St. Armande*, see *Gow*.  
*St. Armande, A.*, 481, 1698.  
*Sainte-Claire Deville, H.*, 1292.  
*St. Gilles, de L. Pean*, see *M. Berthelot*.  
*St. John, A.*, 571, 1898.  
*Saito, G.*, 1205.  
*Sajitz, R.*, and *F. Pospiech*, 2104.  
*Sajitz, R.*, *F. Pospiech* and *Chemische Fabrik Pott & Co.*, 708.  
*Sakane, S.*, 2615.  
*Sakom, D.*, 571.  
*Sakurada, I.*, see *K. Hess*.  
*Sakurada, I.*, see *G. Kita*.  
*Sakurada, I.*, see *T. Nakashima*.  
*Sakurada, I.*, 163, 208, 708, 709,

- 823, 824, 1051, 1054, 1355, 1357, 1637, 1721, 1752, 2626.  
 Sakurada, I., and K. Hess, 1004.  
 Sakurada, I., and T. Nakashima, 127, 709, 1310, 1683.  
 Sakurada, I., and S. Suzuki, 1004.  
 Sakurada, I., and M. Taniguchi, 1067.  
 Saleil, E., 2540.  
 Sallmann, R., 2350.  
 Sallmann, R., and Raduner & Co., A. G., 209.  
 Salzbergwerke, Neustassfurt, 396.  
 Salzmann, G., *see* K. Hess.  
 Samec, M., 1680.  
 Samec, M., and S. Ferjancic, 1620.  
 Sammet, F., 417.  
 Samuels, H., *see* W. Haworth.  
 Samuelsen, S., *see* E. Heuser.  
 Samwel, P., *see* E. Buechner.  
 Samwel, P., *see* J. Katz.  
 Sander, F., 405.  
 Sanderson, W., 572.  
 Sanderson & Sons, A., 1806.  
 Sandor, G., 824.  
 Sandor, Ges., 709.  
 Sansone, A., 389.  
 Sarasin, J., *see* A. Pictet.  
 Sarasin, J., 1107.  
 Sarauw, E., and K. Buschka, 330.  
 Sata, N., 710.  
 Satoire, M., 710.  
 Satow, S., 1894, 1909, 2056.  
 Saubermann, S., 2617.  
 Sauer, E., 572.  
 Sauget, H., 824, 2604.  
 Saunders, C., G. Stanley and C. Bennett, 572.  
 Saunders, H., and L. Sutherland, 572.  
 Saunders, K., *see* British Dyestuffs Corp., Ltd.  
 Saunders, K., *see* A. Green.  
 Sauter, E., 2136.  
 Savigny, *see* Ferrouillet.  
 Sawyer, P., 710, 1885.  
 Sayers, J., *see* C. Lundholm.  
 Sawyer, R., *see* D. Frothingham.  
 Saylor, J., *see* P. Gross.  
 Sayre, R., 1887.  
 Scammel, J., 383.  
 Schaack, R. van, *see* R. Van Schaack.  
 Schaarschmidt, A., and M. Popoff, 710, 2432.  
 Schade, O., *see* C. v. Hoessle.  
 Schaefer, J., *see* J. Davidson.  
 Schaeffer, A., *see* I. G. Farbenindustrie.  
 Schaeffer, J., *see* J. Davidson.  
 Schafer, E., and C. Peterson, 1178, 1179.  
 Schaffganz, K., *see* K. Ott.  
 Schahse & Co., A., 2619.  
 Schall, M., 481.  
 Schamelhout, A., 572.  
 Schapiro, E., *see* H. Pringsheim.  
 Schaposchnikoff, W., 1179.  
 Scharf, E., *see* C. Immerheiser.  
 Schaub, J., 1171, 2480.  
 Schauli, G., *see* J. Szek.  
 Schaurich, F., 572.  
 Shawinigan Laboratories, Ltd., 576.  
 Scheele, W., 573, 1884.  
 Scheiber, J., 1580, 1926, 1939, 2216, 2330, 2474.  
 Scheiber, W., *see* R. Kienle.  
 Scheidegger, J., *see* C. Dreyfus.  
 Scheidegger, J., and C. Dreyfus, 1902.  
 Scheidemandel, H., 1995.  
 Schellhorn, F., *see* T. Flatau.  
 Schellen, 1137.  
 Scheller, E., 481.  
 Schenk, M., *see* A. Bernoulli.  
 Schenk, M., *see* R. Speitel.  
 Schenk, M., 1621, 2623.  
 Schepss, W., *see* Farbenfabriken.  
 Schepss, W., *see* I. G. Farbenindustrie, A.-G.  
 Schepss, W., *see* P. Rabe.  
 Scherer, P., and R. Husser, 1205.  
 Schering, E., *see* Chemische Fabrik auf Aktien.  
 Schering, E., 620.  
 Schering, E., and A. Loose, 355.  
 Schering, F., *see* Chemische Fabrik auf Aktien.  
 Schering-Kahlbaum, A.-G., 710, 824, 1004, 1065.  
 Scherrer, P., 1106.  
 Scheuble, R., 1947.  
 Scheuer, Lauth & Cie and L. Diserens, 825, 2319.  
 Scheurer, A., 1133, 1140.  
 Schick, G., 1005, 2501.  
 Schickler, P., and H. Hahl, 1979.  
 Schidrowitz, P., and D. Burke, 824, 1944, 2544.  
 Schieber, W., *see* I. G. Farbenindustrie.  
 Schieber, W., H. Pfannenstiel and H. Mahn, 1593.  
 Schierz, E., and T. Ward, 710.

- Schiff, L., 2588.  
Schiff, R., 1296.  
Schiffmann, J., 1924.  
Schilling, K., 2472.  
Schilt, W., *see* F. Hefti.  
Schindelmeiser, J., 163, 1982, 2046.  
Schinle, R., *see* B. Brigl.  
Schinle, R., 1508.  
Schinzel, K., 573.  
Schirm, E., *see* M. Moest.  
Schirmacher, K., and K. Stenger, 2257, 2278.  
Schlack, P., *see* A. Friederich.  
Schlack, P., *see* A. Möhring.  
Schlack, P., 2114.  
Schladebach, H., *see* I. G. Farbenindustrie.  
Schladebach, H., and H. Hähle, 2419.  
Schlappig, O., *see* Deutsche Gummwaren-Industrie Schlappig & Co.  
Schlecht, L., 1068.  
Schleich, C., 1618.  
Schleicher, F., *see* F. Henglein.  
Schleicher, F., *see* I. G. Farbenindustrie, Akt-Ges.  
Schleicher, F., G. Schwaebel and K. Briesewitz, 1005.  
Schleimann, W., 30, 357, 418.  
Schleisinger, A., 2499.  
Schlingman, P., 2637.  
Schlochoff, P., 2349.  
Schlochoff, R., 1005.  
Schloss, A., *see* Fuerst Guido Donnersmarck'sche.  
Schloss, A., 361, 573.  
Schlubach, H., and H. von Bomhard, 1128.  
Schlubach, H., and H. Elsner, 1157.  
Schlubach, H., H. Elsner and V. Prochowick, 1134.  
Schlubach, H., and H. Firgau, 1503.  
Schlubach, H., and W. Floersheim, 1160, 1505.  
Schlubach, H., and K. Moog, 1128.  
Schlubach, H., and G. Schröter, 1506, 1507.  
Schlumberger, T., *see* E. Bronnert.  
Schlumberger, T., 1893.  
Schmerber, J., 2022.  
Schmerber, J., and L. Morane, 340, 2002, 2022.  
Schmid, H., 1137.  
Schmid, K., *see* R. Weinland.  
Schmid, L., 94, 1160, 1329.  
Schmid, L., and B. Becker, 95, 1160, 1164, 1306.  
Schmid, L., and M. Zentner, 163.  
Schmidt, A., *see* I. G. Farbenindustrie.  
Schmidt, A., 249, 2466.  
Schmidt, A., and I. G. Farbenindustrie, A. G., 249.  
Schmidt, A., and Farbwerke vorm. M., L. & B., 2033.  
Schmidt, A., and E. Pfeffer, 2477.  
Schmidt, E., 1095, 1150, 1171, 2481.  
Schmidt, F., 127, 163, 297, 573, 1579, 2607.  
Schmidt, H., 1005, 2555.  
Schmidt, K., *see* I. G. Farbenindustrie, A.-G.  
Schmidt, K., 2248.  
Schmidt, L., and M. Zentner, 1481.  
Schmidt, M., 80, 1980, 2001, 2006.  
Schmidt, M., and Kalle & Co., 464.  
Schmidt, M., and W. Krieger, 209, 1005, 2529, 2533.  
Schmidt, M., and J. Voss, 80, 661, 1991, 2001.  
Schmidt, M., J. Voss and Kalle & Co., 573.  
Schmidt, O., 481.  
Schmidt, O., T. Eichler and O. Allemann, 1800, 1984.  
Schmidt, O., T. Eichler and K. Seydel, 1991.  
Schmidt, O., T. Eichler, K. Seydel and I. G. Farbenindustrie, Akt-Ges., 710.  
Schmidt, O., G. Lutz and T. Eichler, 402, 408, 1985, 2662.  
Schmidt, O., G. Lutz, T. Eichler and Badische Anilin & Soda Fabrik, 1989.  
Schmidt, O., and E. Meyer, 1900.  
Schmidt, R., 2630.  
Schmidt, R., and R. Berliner, 825, 2255.  
Schmidt, W., 2128.  
Schmidting, J., 2537.  
Schmit, S., *see* C. Clemencon.  
Schmitt, R., *see* E. Heuser.  
Schmabel, E., *see* I. G. Farbenindustrie A.-G.  
Schnabel, E., 2433, 2497.  
Schnabel, E., and H. Bruns, 2228.  
Schnable, G., 825.  
Schneeberger, L., *see* H. Dreyfus.  
Schneer, I., *see* S. Uschakov.  
Schneevoigt, A., *see* I. G. Farbenindustrie, A.-G.  
Schneevoigt, A., 711, 2245, 2319.

- Schneider, B. v., 1274, 1275.  
*Schneider, F., see E. Heuser.*  
*Schneider, G., see British Celanese, Ltd.*  
*Schneider, G., see C. Dreyfus.*  
 Schneider, G., 163, 174, 292, 711, 742, 1006, 1090, 1555, 1563, 1577, 1581, 1698, 2016, 2034, 2041, 2160, 2361, 2394, 2561.  
 Schneider, G., and C. Dreyfus, 127, 2014.  
*Schneider, W., see F. Fischer.*  
*Schnitzler, E., see H. Lummerzheim.*  
 Schnitzler, E., 1006.  
 Schoen, F., 3.  
 Schoen, M., 1152.  
 Schoenburg, C., G. Wick and I. G. Farbenind., 1897.  
*Schöller, C., see H. Schütte.*  
*Schönfeld, F., see R. Anschütz.*  
 Schoep, A., 2459.  
*Schoffstall, C., see W. Coblenz.*  
*Scholz, K., see B. von Ehrenthal.*  
 Scholz, V., and B. Eibes, 711, 1914.  
*Schonburg, C., see I. G. Farbenind., A.-G.*  
 Schopper, T., 2046.  
 Schorger, A., 1112, 1173, 1390.  
 Schorlemmer, M., 1267, 1272.  
*Schott, W., see E. Heuser.*  
 Schotz, S., 1154.  
 Schramek, W., C. Schubert and H. Velten, 1204.  
 Schramm, J., 1293.  
 Schramm, W., 1133.  
 Schraube, C., and E. Laudien, 2015.  
 Schrauth, 587.  
 Schrauth, W., 573, 1912, 1992.  
*Schreiber, A., see H. Pringsheim.*  
*Schreiber, H., see W. Zänker.*  
 Schreiber, W., 1883.  
 Schreiner & Sievers, 2606.  
 Schreurs, P., and G. Metz, 2618.  
*Schrodt, A., see E. Elod.*  
 Schroeder, C., L. Levi and A. Lasche, 1796, 1941.  
*Schroeter, G., see A. Binz.*  
*Schröter, G., see H. Schlubach.*  
*Schryver, S., see H. Buston.*  
*Schryver, S., see E. Candlin.*  
 Schryver, S., and E. Thomas, 1153.  
*Schubert, C., see W. Schramek.*  
*Schubert, S., see M. Hoenig.*  
*Schudel, G., see R. Willstaetter.*  
 Schuelke, E., 1072, 1234.  
 Schüpphaus, R., 1841, 1844, 1861, 1867, 1869, 1870, 1884, 1888, 1889, 1890, 1923, 1925, 1961, 2015, 2021, 2026.  
*Schuessler, H., see I. G. Farbenind. A.-G.*  
*Schuessler, H., see K. Ott.*  
*Schuette, H., see P. Gilchrist.*  
 Schütte, H., C. Schöller, F. Günther, J. Nüsslein and H. Haussmann, 2312.  
*Schuetz, F., see O. Jaeck.*  
 Schuetzenberger, 308, 311, 312, 317, 329.  
 Schuetzenberger, P., 1, 315, 316, 335, 1158, 1491, 1780.  
 Schuhmann, H., and F. Streuber, 2105.  
 Schulke, E., 573, 711.  
 Schultz, 195, 196, 197, 237, 1602.  
 Schultz, G., 234, 672, 1577.  
*Schultze, G., see K. Hess.*  
*Schultze, G., see A. Mohring.*  
 Schultze, G., and K. Hess, 711.  
 Schultze, L., 338.  
*Schulz, H., see Wolf & Co.*  
 Schulz, H., 330.  
 Schulze, A., 574.  
 Schulze, J., 1046.  
 Schulze, L., 1491.  
 Schumacher, W., 2458.  
*Schupp, H., see E. Berl.*  
*Schupp, H., see O. Kohorn & Co.*  
*Schupp, H., see O. von Kohorn.*  
 Schupp, H., 712, 1006, 2369.  
 Schupphaus, J., 94.  
*Schur, M., see G. Richter.*  
 Schur, M., and B. Hoos, 1006, 1050, 1169.  
 Schur, M., B. Hoos and T. Morris, 1006.  
 Schur, M., and R. Webber, 1172.  
*Schuster, C., see I. G. Farbenind. A. G.*  
*Schuster, C., see K. Meyer.*  
 Schuster, C., 2619.  
 Schuster, P., 1983.  
 Schwabe, C., 433.  
 Schwabe, E., and I. G. Farbenindustrie, 1977, 1992.  
*Schwaebel, G., see I. G. Farbenindustrie, Akt-Ges.*  
*Schwaebel, G., see F. Schleicher.*  
 Schwalbe, C., 371, 383, 392, 394, 395, 405, 1148, 1151, 1211, 1231.  
 Schwalbe, C., and G. Feldtmann, 1145.  
 Schwalbe, C., and G. Robinooff, 1201.

- Schwartz, C., 1799, 2059.  
*Schwartz, G., see E. Reid.*  
 Schwartz, G., 698, 1925, 1968, 1971.  
 Schwartzkopf, O., 1750.  
*Schwarze, K., see B. Rassow.*  
 Schwarzkopf, R., 1233.  
*Schwegler, C., see C. Strosacker.*  
 Schweiger, K., 574.  
*Schweitzer, E., see S. Weidmann.*  
 Schweitzer, H., 2247.  
*Schweitzer, O., see H. Staudinger.*  
 Schweizer, A., 1133.  
 Schwenk, E., and F. Hartwich, 1945.  
 Schwenterley, A., 1814.  
 Schwickert, A.-G., R., and O. Huber, 2542.  
*Scott, G., & Son, see H. Pooley.*  
*Scott, J., see J. Irvine.*  
*Scott, T., see Standard Telephones & Cable, Ltd.*  
*Scottish Dyes, Ltd., see E. Beckett.*  
*Scottish Dyes, Ltd., see A. Dandridge.*  
*Scottish Dyes, Ltd., see H. Drescher.*  
*Scottish Dyes, Ltd., see D. Fairweather.*  
*Scottish Dyes, Ltd., see J. Wilson.*  
*Scottish Dyes, Ltd., see B. Wylam.*  
 Scottish Dyes, Ltd., 825, 2244, 2291.  
 Scottish Dyes, Ltd., E. Beckett, J. Thomas and R. Tonkin, 712, 2297.  
 Scurti, F., and C. Zay, 481.  
 Seailles, S., 574.  
*Seaman, S., see H. Hanson.*  
 Seaman, S., 1149, 1170.  
*Sease, V., see J. Kessler.*  
 Sease, V., 574, 712, 1886, 1902, 2503.  
 Seaton, M., 574, 1842, 1844, 1917.  
 Seaton-Snowden, F., and D. Young, 383, 2058.  
 Seaton Syndicate, Ltd., 712.  
 Sebrell, L., 1969.  
 Secretant, M., 1900.  
*Sedlacek, H., see A. Bosse.*  
*Sedlmayr, R., see G. Kränzlein.*  
 See, J., 575, 1863, 2032.  
*Seefried, H., see H. Heilmann.*  
 Seel, P., 1820, 1824, 1827, 1828, 1887, 1901, 1912, 1916, 1933, 1935, 2031, 2413, 2514.  
 Seel, P., W. Webb and J. Donohue, 297, 1445.  
 Seelig, E., 1293.  
 Seeligmann, F., and E. Zieke, 2061.  
 Segal, W., 128.  
 Segitz, A., 903.  
*Seguin, E., see C. Bouvier.*  
*Segur, J., see H. Hopkins.*  
 Seher, A., 1877.  
*Seib, J., see Holzverkohlungs-Ind. A.-G.*  
 Seidel, 2662.  
*Seidel, A., see A. Bosse.*  
*Seidel, W., see I. G. Farbenind., A.-G.*  
 Seidel, W., and A. Ernecke, 2131.  
 Seidell, L., and G. Jack, 713, 1913.  
 Seifert, B., 482.  
 Seifriz, W., 1120.  
*Seisakusho, K., see S. Fujise.*  
 Seldon Co., 1960.  
*Selle, H., see R. Herzog.*  
 Sellig, E., 1923.  
 Semisch, H., 1093.  
 Semmler, F., 252.  
 Senda, N., and Y. Uyeda, 826.  
*Senderens, J., see P. Sabatier.*  
 Senderens, J., 575.  
 Sendo, M., and J. Kondo, 903, 1734.  
 Serenyl, R., 1075.  
 Serret, A., 575.  
 Serullas, G., 1275, 1276.  
 Sessler, H., 209, 1466.  
 Seuffert, R., 1925.  
*Seydel, K., see O. Schmidt.*  
 Seyewetz, A., and M. Biot, 1293.  
 Seyfferth, E., 575, 2552.  
 Seyfferth, E., and Rheinisch-Westfälische Sprengstoff, A. G., 576.  
 Seymour, F., 2603.  
*Seymour, G., see C. Dreyfus.*  
*Seymour, G., see W. Moss.*  
 Seymour, G., 297, 1007, 1583, 1951.  
 Seymour, G., and C. Dreyfus, 2394.  
 Seymour, P., 1931.  
 Shaffer, P., and T. Friedemann, 1504.  
 Shahid, G., 1007.  
 Shallcross, H., 2489.  
*Shannon, M., see J. Irvine.*  
 Shapiro, A., 826.  
*Shapiro, E., see H. Pringsheim.*  
 Sharkov, V., 827, 1191, 1194.  
*Shaw, C., see L. Holliday & Co., Ltd.*  
*Shaw, G., see M. Marshall.*  
 Shaw, J., 713.  
 Shaw, M., and G. Bicking, 903.  
 Shawinigan Water & Power Co. (The), 482.  
 Shedden, F., A. Delph and N. Baguley, 2115.  
 Shepard, N., 1266.

- Shephard, F., and F. Renwick, 1007.  
 Shepherd, F., & Cords, Ltd., 827.  
 Shepherdson, A., see *J. Baddiley*.  
 Shepherdson, A., see *British Celanese, Ltd.*  
 Shepherdson, A., see *British Dyestuffs Corp., Ltd.*  
 Shepherdson, A., see *Imperial Chemical Industries, Ltd.*  
 Sheppard, S., see *E. Farrow*.  
 Sheppard, S., see *Kodak, Ltd.*  
 Sheppard, S., see *J. McNally*.  
 Sheppard, S., and J. McNally, 1007, 2514.  
 Sheppard, S., see *P. Newsome*.  
 Sheppard, S., 47, 96, 482, 576, 813, 1055, 1809, 2530.  
 Sheppard, S., and C. Beal, 1376.  
 Sheppard, S., and E. Carver, 713.  
 Sheppard, S., E. Carver and R. Houck, 1355.  
 Sheppard, S., E. Carver and S. Sweet, 714.  
 Sheppard, S., and L. Eberlin, 128, 1007, 1378, 1460.  
 Sheppard, S., and P. Newsome, 827, 1007, 1067.  
 Sheppard, S., A. Nietz and R. Keenan, 914.  
 Sheppard, S., and S. Sweet, 1043, 1786, 1929.  
 Sherts, J., and R. Hamill, 827, 1077, 2595, 2596.  
 Shigley, C., see *S. Paxton*.  
 Shigley, C., and S. Paxton, 2603.  
 Shilov, E., 828, 903.  
 Shimadzu, G., 576.  
 Shimoyama, K., see *K. Atsuki*.  
 Shinoda, R., see *K. Atsuki*.  
 Shipley, S., 1838, 1851, 1853, 1913, 1915.  
 Shipley, S., and G. Given, 1802, 1848, 1850, 1897, 1906, 1916.  
 Shoemaker, H., see *E. Lynn*.  
 Shoemaker, M., 209, 2405.  
 Shoesmith, J., and R. Slater, 1298.  
 Shonle, H., and P. Row, 714, 1940, 1962.  
 Shook, C., 1891.  
 Shrager, C., and R. Lance, 1947, 2105.  
 Shufflebotham, J., see *F. Griffiths*.  
 Sicherheitsglas Neutex, 2567.  
 Sidgwick, N., and S. Plant, 1287.  
 Sidgwick, N., S. Plant and A. Boake, Roberts & Co., 1287.  
 Sidgwick, N., and L. Woodward, 903.  
 Siebert Bros., see *Raison Sociale Siebert*.  
 Siebert, G., 2393.  
 Siebert, O., and M. Raeck, 2264.  
 Siemens Bros. & Co., Ltd., and W. Goodwin, 904.  
 Siemens and Halske Akt-Ges., 1823.  
 Siemens-Schuckertwerke A. G., 96, 128, 415, 576, 1240, 1338, 1340, 1571, 1576, 2443.  
 Signer, R., see *H. Staudinger*.  
 Silberrad, O., see *L. Levy*.  
 Silberrad, O., 576, 714, 1808, 2116.  
 Silberrad, O., and H. Bleasdale, 904, 1008.  
 Silver Springs Bleaching & Dyeing Co., Ltd., see *A. Hall*.  
 Silver Springs Bleaching & Dyeing Co., 824, 1088.  
 Silver Springs Bleaching & Dyeing Co., Ltd., and A. Hall, 105, 577, 714, 715, 745, 798, 829, 904, 2173, 2184, 2193, 2203, 2299, 2301, 2305.  
 Silvestrini, N., see *Societa Anonima Cartiere Giacomo Bosso*.  
 Simmonds, R., 1008, 2231, 2565.  
 Simms, C., 1887.  
 Simms, C., W. Bannister and L. Swallen, 1974.  
 Simms, H., see *P. Levene*.  
 Simon, H., 164, 2495.  
 Simon, L., see *C. Boulin*.  
 Simon, L., see *J. Guyot*.  
 Simon, L., see *R. Levaillant*.  
 Simon, L., and G. Chavanne, 482.  
 Simon, L., and M. Fréjacques, 1264.  
 Simonin, J., 829, 1762, 1770.  
 Simons, P., see *A. Leisegang*.  
 Simons, P., see *M. Winkelströter*.  
 Simpson, C., 715, 829, 2462.  
 Simpson, E., see *H. Valentine*.  
 Sims, H., see *British Celanese, Ltd.*  
 Sims, H., see *H. Dreyfus*.  
 Sindl, O., see *H. Hawlik*.  
 Singer, F., and A. Holl, 1264.  
 Singer, R., see *K. Hess*.  
 Singer, R., see *H. Wolff*.  
 Singh, K., see *M. Hamid*.  
 Singmaster, J., 1008, 2175, 2177.  
 Sirk, H., see *Z. Skrapup*.  
 Sisley, E., see *Soc. Chim. des Usines du Rhone*.  
 Sisley, J., 1008, 2281.  
 Sisley, P., 904, 2136.  
 Sivet, D., 1802.  
 Sixt, J., see *M. Mugdan*.

- Sjoberg, M., see B. Holmberg.*  
*Sjöberg, R., 1562.*  
*Sjostrom, O., see R. McCoy.*  
*Sjostrom, O., 1155.*  
*Skaller, O., 482.*  
*Skaller, O., see also Firma Oskar Skaller.*  
*Skinner, A., see J. Irvine.*  
*Skinner, H., 1147.*  
*Skioldebrand, C., see E. Heuser.*  
*Skirrow, F., see Canadian Electro Products Co., Ltd.*  
*Skirrow, F., see H. Matheson.*  
*Skirrow, F., 577.*  
*Skirrow, F., and G. Morrison, 1995.*  
*Skertchly, W., see British Celanese, Ltd.*  
*Skraup and J. Koenig, 1492.*  
*Skraup, Z., 319, 330, 331, 366, 379, 1491, 1733.*  
*Skraup, Z., E. Geinsperger, E. v. Knaff-Lenz, F. Menter and H. Sirk, 1491.*  
*Skraup, Z., and H. Hamburger, 1491.*  
*Skraup, Z., Knaff-Lenz, F. Menter and H. Sirk, 359.*  
*Skraup, Z., and J. Koenig, 330, 366.*  
*Slater, R., see J. Shoesmith.*  
*Slavicek, V., 2128.*  
*Slavo, 209.*  
*Slocum, E., see M. Bogert.*  
*Slotta, K., and W. Franke, 1250.*  
*Small, F., see British Cellulose & Chem. Mfg. Co., Ltd.*  
*Small, F., and W. Dickie, 302, 2582.*  
*Smart, W., 2400.*  
*Smeykal, K., see K. Freudenberg.*  
*Smirnof, A., see P. Karrer.*  
*Smith, A., and K. Orton, 373.*  
*Smith, D., 96, 1486, 1488, 2496, 2497.*  
*Smith, E., see Courtaulds, Ltd.*  
*Smith, F., see K. Hess.*  
*Smith, H., see P. Smith.*  
*Smith, H., see W. Wood.*  
*Smith, H., 1008, 1042, 1861, 1868, 1929, 1929, 1941, 1947, 1948, 1956, 2448.*  
*Smith, H., and W. Bowker, 2621.*  
*Smith, J., see H. Bott.*  
*Smith, J., see E. Hirst.*  
*Smith, J., 577, 2532.*  
*Smith, J., and W. Merckens, 365, 2501.*  
*Smith, L., see Imperial Chemical Industries, Ltd.*  
*Smith, L., see British Dyestuffs Corp., Ltd.*  
*Smith, L., see J. McBain.*  
*Smith, L., 577, 2316.*  
*Smith, M., see The Anglo Pencil Co., Ltd.*  
*Smith, M., 715, 1914.*  
*Smith, P., 164, 2494.*  
*Smith, P., and H. Smith, 715.*  
*Smith, S., 1770.*  
*Smith, W., see E. Berl.*  
*Smythe, H., see F. Myers.*  
*Snelling, W., 829, 1182, 1272, 1273, 1564.*  
*Snelling, W., and W. Laws, 1564.*  
*Snelling, W., 2369.*  
*Snowden & Co., Ltd., 416.*  
*Snyder, C., 2130.*  
*Sobue, H., see K. Atsuki.*  
*Socias, L., see C. Torres.*  
*Societa Anonima Italiana, 1009.*  
*Societa Anon. Italiana per la Seta Artificiale, see A. Lautenberg.*  
*Societe des Acieries et Forges de Firminy, 579.*  
*Soc. l'Air Liquide (Soc. Anon. pour l'Etude et Exploitation des Procèdes Georges Claude), 2129.*  
*Soc. Alsacienne de Produits Chimiques, 577, 2157.*  
*Societe Anonyme par Actions "La Solvea," 430.*  
*Societe Anonina Cartiero Giacomo Bosso and N. Silvestrini, 2437.*  
*Societe Anonyme des Celluloses Planchon, 404.*  
*Soc. Anon. des Distilleries des Deux-Sevres, 715, 716, 829, 904, 905, 1009, 1920.*  
*Soc. Anon. Durand et Huguenin, 638.*  
*Soc. des Brevets J. Paisseau, 720.*  
*Soc. Anon. des Etablissements J. Dupont, 576.*  
*Soc. Anon. des Etablissements Hutchinson, 482, 1817.*  
*Soc. Anon. des Etablissements Petitdidier, Ancienne Maison Jolly-Belin, 716, 1009, 2309, 2327, 2329.*  
*Soc. Anon. pour l'Exploitation des Procèdes Westinghouse-Leblanc, 414.*  
*Societe Anonyme D'Explosifs et de Produits Chimiques, 364, 1700, 1859.*  
*Soc. Anon. Française, La Soie Arti-*



- ficielle, 1233, 1240, 1247, 1621.  
 Soc. Anon. des Laboratories "Odont-  
 Email," 249, 1581, 1901, 2538.  
 Soc. Anon. des Mat. Col. et Prod.  
 Chim. et St.-Denis and R. Lantz,  
 2635.  
 Soc. Anon. des Plaques et Papiers  
 Photographiques, A. Lumiere et  
 ses Fils, 370.  
 Soc. Anon. de Produits Chim. Etab-  
 lissements Malettra, 577.  
 Soc. Anon. des Prod. de Fontaines,  
 1258.  
 Soc. Anon. des Usines de Melle,  
 1040.  
 Soc. Anon. Durand & Huguenin,  
 2244.  
 Soc. Anon. Francaise La Soie Arti-  
 ficielle, 467.  
 Soc. Anon. J. R. Geigy, 716, 2284.  
 Soc. Anon. *Italiana per la Seta*  
*Artificiale*, see *Chatillon*.  
 Soc. Anon. Le Camphre, 417.  
 Soc. Anon. pour *L'Ind. Chim. a*  
*Bale*, see *Gesellschaft für Chem-*  
*ische Industrie in Basel*.  
 Soc. Anon. pour *L'ind. chim. a Bale*,  
 see *M. Hartmann*.  
 Soc. anon. nouvelle "L'Oyonnithe,"  
 403, 1938.  
 Soc. Anon. L'Oyonnaxienne, Fabri-  
 que de Matieres Plastiques, 96,  
 417, 2056, 2057, 2567, 2581.  
 Soc. Anon. Progil, 719.  
 Soc. Anon. pour *l'Etude et Exploi-*  
*tation des Procèdes Georges*  
*Claude*, see *Soc. l'Air Liquide*.  
 Soc. Anon. pour la Fabrikation de  
 la Soie de Chardonnnet, 2129.  
 Soc. Anon. Union Photographique  
 Industrielle, 719.  
 Soc. Bellignite, 2567.  
 Soc. Camar et P. Dumesnil, 483.  
 Soc. Celluloid Uninflamable, 1909.  
 Soc. *Chem. Industry, Basle*, see *R.*  
*Haller*.  
 Soc. Chim. du Caoutchouc (Soc.  
 Anon.), 832.  
 Soc. Chim. des Derives du Pin and  
 G. Darzens, 832.  
 Soc. *Chim. Ind. in Basle*, see *Gesell-*  
*schaft für Chemische Industrie*  
*in Basel*.  
 Soc. des Usines Chimiques Rhone-  
 Poulenc, 1059, 1064, 1079, 1969,  
 2034, 2525, 2586, 2589, 2594, 2629.  
 Soc. *Chim. des Usines du Rhone*,  
 see *J. Altwegg*.  
 Soc. *Chim. des Usines du Rhone*,  
 see *M. Beudet*.  
 Soc. *Chim. des Usines du Rhone*,  
 see *J. Koetschet*.  
 Soc. *Chim. des Usines du Rhone*,  
 see *E. Prince*.  
 Societe Chimique des Usines du  
 Rhone, 97, 102, 129, 164, 238,  
 399, 412, 427, 428, 483, 578, 707,  
 719, 720, 1033, 1294, 1446, 1832,  
 2099, 2143, 2177, 2306, 2582.  
 Soc. Chim. des Usines du Rhone  
 and E. Sisley, 578.  
 Soc. Chim. des Usines du Rhone  
 and M. Theumann, 164, 2239.  
 Soc. *Chim. des Usines du Rhone*  
*Florentin Biduad*, see *E. Du Pont*  
*de Nemours & Co.*  
 Societe Clement & Riviere, 140,  
 1363, 1411, 1558, 2429.  
 Societe Debauge, 1735.  
 Soc. des Brevets Etrangers *Le*  
*Franç & Cie*, see *J. Lefranc*.  
 Soc. des Brevets Etrangers Lefranc  
 et Cie, 832, 907, 1011, 1039, 1702,  
 1739.  
 Societe des Brevets J. Paisseau,  
 1945.  
 Soc. de Constructions Mecaniques  
 de Stains, 2107.  
 Soc. des Etabl. Barbet, 720, 832,  
 1046.  
 Soc. des Etablissements Gaumont,  
 654, 2603.  
 Societe d'Etude des Verres et  
 Glaces de Surete., see *J. Duclaux*.  
 Soc. d'Etude des Verres et Glaces  
 de Surete, 164.  
 Societe D'Exploitation des Brevets  
 Dolter, 364, 1734, 2002.  
 Soc. des Matieres Plastiques, 2567.  
 Societe des Manufactures N. N.  
 Konchine, 431.  
 Soc. des Produits Chim. et Clam-  
 ecy and E. Charles, 905.  
 Soc. de Recherches et d'Applica-  
 tions Cellulose et Papiers, 578.  
 Soc. des Usines Chim. Rhone-Pou-  
 lenc, 164, 209, 210, 251, 254, 833,  
 834, 905, 906, 907, 1011, 1012,  
 1578, 1687, 1695, 1700, 1701, 1727,  
 1728, 1739, 2567, 2568.  
 Soc. des Usines Chim. Rhone-Pou-  
 lenc, H. Gault and F. Bidaud,  
 834.  
 Soc. la Soie Artificielle de la

- Voulte, 579.
- Soc. de Stearinerie et Savonnerie de Lyon, 722, 1716.
- Soc. de Stearinerie et Savonnerie de Lyon & P. Berthon, 579, 1494.
- Soc. Dispersoid Francais, 907.
- Soc. Francaise de Catalyse Generalisee, 832, 834, 1012, 1046.
- Soc. Francaise des Crins Artificiele, 129, 721.
- Soc. Francaise des Tissus Biaises, 394.
- Soc. Francaise Duco, 2625.
- Soc. Generale pour la Labrication des Matieres Plastiques, 1807.
- Soc. Generale de la Soie Artificelle Linkmeyer, 101, 2081.
- Soc. Ind. D'Applications Photographique, 1561.
- Soc. Industrielle Applications, 721.
- Soc. Indust. de Celluloid, 2055, 2568, 2619.
- Societe Industrielle de Cellulose, 2057.
- Soc. Industrielle des Derives de l'Acetylene, 1012.
- Soc. Industrielle des Telephones, 415.
- Soc. Industrie de Moy, 1012, 2010.
- Soc. Industry in Basle, see *Gesellschaft für Chemische Industrie in Basel*.
- Soc. James Nelson, Ltd., 721.
- Societe Kodak-Pathe, 1012, 1068, 1738, 1741, 2535.
- Soc. La Ronite, 2568.
- Societe Leduc, Heitz et Cie., 1820.
- Soc. Lyonnaise de Celluloide, 2567.
- Societe Lyonnaise de Soie Artificielle, 1902.
- Soc. Lyonnaise de Soie Artificielle and P. Chevalet, 721, 722, 907, 2213.
- Soc. Nauton Freres et de Marsac and T. Tesse, 483, 579, 580, 1862, 1978, 2484.
- Soc. Nobel Francaise, 2567.
- Societe Neuman, Marx and Desvaux, 2005.
- Societe Palewski & Morin, 484, 1998.
- Soc. Pathe Cinema, Anciens Etab. Pathe Freres, 1898, 2507.
- Societe pour la Fabrication de la Soie Rhodiaseta, see *J. Lahousse*.
- Soc. pour la Fabrication de la soie Rhodiaseta, see *M. Theumann*.
- Societe pour la Fabrication de la Soie Rhodiaseta, 97, 108, 129, 165, 210, 251, 299, 580, 908, 909, 1013, 1797, 2082, 2099, 2115, 2132, 2176, 2189, 2197, 2198, 2217, 2230, 2318, 2334, 2366, 2376, 2526, 2644.
- Soc. pour la Fabrikation en Italie de la Soie Artificielle par le Procede de Chardonnet, 2129.
- Soenksen, H., see *I. G. Farbenindustrie A.-G.*
- Soff, K., see *K. Freudenberg*.
- Soie Charentaise, 2377.
- Soie de Chatillon Soc. Anon., 1208, 1243, 2177.
- Soie de Clairoux, 2111.
- Sokolova, N., see *S. Lipatov*.
- Solonina, W., 1293.
- Solvent Extraction Refrigeration Co., Ltd., 1274.
- Soly, A., and E. Davier, 2128.
- Sommelet, M., 1298.
- Sommer, P., see *I. G. Farbenindustrie*.
- Sommer, P., see *W. Kirst*.
- Sommerfeld, T., and R. Fischer, 1266.
- Sonderabdruck aux der Fach- und Export, 457.
- Sondermann & Co., 834, 835, 2084, 2121, 2142.
- Soule, R., see *J. Morgan*.
- Soutar, C., see *British Alizarine Co., Ltd.*
- Soutar, C., see *J. Irvine*.
- Sowter, P., see *British Celanese, Ltd.*
- Sowter, P., see *W. Dickie*.
- Sowter, P., see *H. Dreyfus*.
- Spaeth, E., see *R. Wegscheider*.
- Spafford, W., 722.
- Spalteholz, W., and K. Haring, 432.
- Spamer, O., 1106.
- Sparre, F., 1821.
- Speakman, J., and N. Chamberlain, 908.
- Specht, H., 1035, 1411.
- Speidel, 2662.
- Speidel, P., see *B. Helferich*.
- Speight, E., 211, 2030.
- Speights, Ltd., 2567.
- Speitel, R., and M. Schenk, 2178.
- Spelling, R., 824.
- Spence, D., and A. Clark, 1889.
- Spence, P., & Sons, Ltd., 417.
- Spencer, C., see *F. Peterson*.
- Spencer, C., 908.

- Spencer, D., see H. Murray.*  
*Spencer, H., 620.*  
*Spencer, L., see H. Coward.*  
*Spengler, O., see I. G. Farben-*  
*industrie, A.-G.*  
*Spengler, O., and W. Mueller, 722,*  
*2264, 2277.*  
*Spengler, O., P. Virck and R. Wei-*  
*denhagen, 723.*  
*Sper, E., 1251.*  
*Speyer, E., see M. Freund.*  
*Spica, G., 1805.*  
*Spicers, Ltd., see J. Goldsmith.*  
*Spicers, Ltd., see H. Hands.*  
*Spicers, Ltd., 130, 211, 251, 300,*  
*908, 909, 1096, 1897, 2414, 2534.*  
*Spicers, Ltd., and E. Barnes, 1095.*  
*Spicers, Ltd., J. Goldsmith, T.*  
*Baker and C. Bonamico, 251,*  
*909, 2531.*  
*Spicers, Ltd., and H. Hands, 165.*  
*Spicers, Ltd., and A. Wickham,*  
*2525, 2530, 2632, 2633.*  
*Spiecker, F., see Wolff & Co.*  
*Spiers, F., see J. Young.*  
*Spiers, F., 2662.*  
*Spiers, W., 2662.*  
*Spieß, E., see K. Freudenberg.*  
*Spill, D., 1798.*  
*Spitaler, A., 2057.*  
*Splinterless Glass Co., Ltd., 2568.*  
*Splinterless Anti-Mist Glass Syn-*  
*dicat, Ltd., see S. Goldreich.*  
*Sponsel, K., see G. Balle.*  
*Sponsel, K., see O. Ernst.*  
*Sponsel, K., see K. Daimler.*  
*Sponsel, K., see Farb. w. vorm.*  
*Meister, Lucius & Brüning.*  
*Sponsel, K., see I. G. Farbenind.*  
*A.-G.*  
*Sponsel, K., see H. Persiel.*  
*Sponsel, K., and G. Balle, 242,*  
*2469, 2577.*  
*Sponsel, K., G. Balle and O. Ernst,*  
*1436.*  
*Sponsler, O., 1120, 1121, 1123.*  
*Sponsler, O., and W. Dore, 130,*  
*1106, 1145, 1218.*  
*Sprent, W., see N. Bennett.*  
*Sproat, I., and R. Vanderbilt Co.,*  
*1013.*  
*Spurlin, H., see R. Herzog.*  
*Square, P., see E. Kingscote.*  
*Stacey, M., see W. Haworth.*  
*Stadler, R., see P. Baumann.*  
*Stadlinger, H., 835, 909, 910, 1013,*  
*1043, 2566.*  
*Staerker, A., see B. Helferich.*  
*Stahn, R., see H. Fink.*  
*Stahn, R., see K. Hess.*  
*Stahl, W., 1013, 2192.*  
*Staier, H., 484.*  
*Stainer, W., see J. Nye.*  
*Stair, R., see W. Coblentz.*  
*Staley, G., see Non-Inflammable*  
*Film Co., Ltd.*  
*Stamoulis, S., see A. English.*  
*Stamscott Co., 1149.*  
*Standard Oil Co., 723.*  
*Standard Telephones & Cables,*  
*Ltd., T. Scott and T. Riley, 1014,*  
*2444.*  
*Stanely, E., see British Celanese,*  
*Ltd.*  
*Staniolfabr. Burgdorf A. G., 1945.*  
*Stanisz, T., see R. Clavel.*  
*Stanley, G., see C. Saunders.*  
*Stanley, J., 1180.*  
*Starck, J., see F. Turner.*  
*Starck, W., see H. Staudinger.*  
*Stark, C., 1149, 1334, 2623.*  
*Stark, W., 1150.*  
*Staub, J., see P. Karrer.*  
*Staub, M., see P. Karrer.*  
*Staud, C., see H. Gray.*  
*Staud, C., see Kodak, Ltd.*  
*Staud, C., see T. Murray.*  
*Staud, C., see C. Rittenhouse.*  
*Staud, C., see R. Titus.*  
*Staud, C., see R. Van Dyke.*  
*Staud, C., see C. Webber.*  
*Staud, C., 835, 910, 1971.*  
*Staud, C., and J. Fuess, 1015, 1068.*  
*Staud, C., and H. Gray, 1055.*  
*Staud, C., and E. McLean, 1738.*  
*Staud, C., and R. Van Dyke, 1014.*  
*Staud, C., and C. Waring, 1063.*  
*Staud, C., and C. Webber, 1014,*  
*1171, 2007, 2506.*  
*Staudinger, H., see E. Berl.*  
*Staudinger, H., 813, 976, 1359.*  
*Staudinger, H., and H. Freuden-*  
*berger, 911, 1130.*  
*Staudinger, H., K. Frey, R. Signer,*  
*W. Starck and G. Widmer, 910,*  
*1105, 1107, 1114, 1359, 1641.*  
*Staudinger, H., and M. Luethy,*  
*1106.*  
*Staudinger, H., and O. Schweitzer,*  
*911, 1114, 1118, 1157, 1318, 1558.*  
*Staufer, B., see S. Freund.*  
*Steacie, E., see W. Hatcher.*  
*Steele, E., see J. Irvine.*  
*Steffens, J., 580, 1916, 1947, 1949,*

1951.  
*Steiger, H.*, see *T. Lichtenhahn*.  
*Steimmig, F.*, 474, 484, 580, 1998.  
*Steimmig, G.*, 300, 1870, 1976, 2473.  
*Stein, A.*, 405, 1700.  
*Stein, B.*, see *P. Nawiasky*.  
*Stein, C.*, 2663.  
*Stein, G.*, 2663.  
*Stein, Hall & Co.*, see *H. Bosland*.  
*Stein, Hall & Co., Inc.*, 1015, 2140.  
*Steinberger, A.*, see *J. Walsh*.  
*Steinbrunn, G.*, see *K. Freudenberg*.  
*Steindorff, A.*, see *Farbw. vorm. Meister, Lucius u. Brüning*.  
*Steindorff, A.*, and *G. Balle*, 1961, 1828, 1991.  
*Steindorff, A., K. Daimler and G. Balle*, 2468.  
*Steiner, H.*, 580.  
*Steiner, P.*, see *V. Henri*.  
*Steinhilber, E.*, see *K. Brass*.  
*Stelkens, W.*, see *R. Mueller*.  
*Stelkens, W.*, 211, 835, 1015, 1971, 2397, 2462.  
*Stelkens, W.*, and *C. Liedtke*, 165, 2361.  
*Stempnewsky, N.*, 1282.  
*Stenger, K.*, see *K. Schirmacher*.  
*Stephani, O.*, see *F. Benrath*.  
*Stephani, O.*, see *P. Benrath*.  
*Sterling, J.*, 1015, 1089, 2219.  
*Stern, E.*, 723, 1493.  
*Stern, H.*, 1890.  
*Sternberg, W.*, 2171.  
*Stevens, A.*, 1873.  
*Stevens, G.*, 2603.  
*Stevens, H.*, see *C. Beadle*.  
*Stevens, J.*, see *M. Lefferts*.  
*Stevens, J.*, see *J. Walsh*.  
*Stevens, J.*, 94, 1808, 1826, 1832, 1837, 1861, 1866, 1869, 1873, 1874, 1877, 1888, 1906, 1908, 1910, 1916, 1936, 1937, 1952, 1955, 1957, 1958, 1960, 1961, 1962, 1964, 2003, 2004, 2020, 2022, 2023, 2024, 2028, 2044, 2045, 2047, 2048, 2157, 2388.  
*Stevens, J.*, and *F. Axtell*, 1956, 1957.  
*Stevens, R.*, see *H. Hamm*.  
*Stevens, W.*, see *E. Gebauer-Fuelnegg*.  
*Stevenson, F.*, see *British Celanese, Ltd.*  
*Stevenson, F.*, see *G. Ellis*.  
*Stevenson, F.*, 723, 2293.  
*Stevenson, J.*, see *J. Irvine*.  
*Stevenson, J.*, see *B. Wylam*.  
*Stevenson, J.*, 581.  
*Stevenson, W.*, 484, 580, 1863, 1902.  
*Stewart, A.*, see *Imperial Chemical Industries, Ltd.*  
*Stewart, A.*, and *Farma Cream Product Co., Ltd.*, 1852.  
*Sthamer, R.*, 333.  
*Stiasny, E.*, 1427.  
*Stickdorn, K.*, 1929.  
*Stiebel, A.*, 426, 2620.  
*Stieglitz, J.*, see *E. Terry*.  
*Stiel, A.*, 2400.  
*Stiller, E.*, see *J. Irvine*.  
*Stinchfield, R.*, see *H. Clarke*.  
*Stinchfield, R.*, see *Kodak, Ltd.*  
*Stinchfield, R.*, 97, 131, 835, 1699, 1728, 1735, 1817, 1932, 1935, 2599.  
*Stine, C.*, 1182.  
*Stine, C.*, and *C. Coolidge*, 211, 2410.  
*Stobbe, H.*, and *A. Lippold*, 663.  
*Stock, F.*, 2603.  
*Stock, J.*, 1015.  
*Stockelbach, F.*, 581, 1897.  
*Stocker, E.*, see *O. Knecht*.  
*Stocker, E.*, 1087.  
*Stocker, J.*, see *F. Lehmann*.  
*Stockhausen, J.*, 1963, 2022.  
*Stockholms Superfosfat Fabriks A.-B.*, 723.  
*Stockley, J.*, and *E. Witte*, 2187.  
*Stockly, J.*, see *Algemeene Kunstzijde Unie, N. Y.*  
*Stoeckigt, F.*, see *E. Heuser*.  
*Stoefler, E.*, 2472.  
*Stoetter, H.*, see *I. G. Farbenindustrie, A.-G.*  
*Stokes, J.*, 1177.  
*Stokes, W.*, and *Courtaulds, Ltd.*, 1015, 2181.  
*Stokes, W.*, 2181.  
*Stollwerk Akt.-Ges. Gebr.*, 2603.  
*Stoch, K.*, see *E. Wederkind*.  
*Storey, R.*, see *British Celanese, Ltd.*  
*Stotz & Co.*, 485.  
*Stoyle, F.*, see *British Acetate Silk Corp.*  
*Strachan, J.*, 1108, 1125.  
*Strache, H.*, 2061.  
*Strahl & Walter, Chem. Fab.*, 1082.  
*Straub, F.*, see *F. Felix*.  
*Straub, F.*, 1040.  
*Strauss, D.*, see *Elektrochemische Werke*.  
*Strauss, D.*, and *R. Uhseman*, 1015.  
*Strauss, H.*, see *E. Fischer*.

- Strauss, S., see J. Kohn.*  
*Strecker, A., 1282.*  
*Strecker, O., 1409, 1686.*  
*Strecker, W., 912, 1265.*  
*Street, E., 2002.*  
*Streeter, L., see J. McClellan.*  
*Strecker, A., 2612.*  
*Strehlenert, R., 1864, 1868.*  
*Strehlenert, R., and F. Reubold, 345.*  
*Streight, H., see W. Haworth.*  
*Streuber, F., see H. Schuhmann.*  
*Strickland, O., see W. Rintoul.*  
*Stritar, M., 2657.*  
*Strobl, H., see Luftschiffbau Zep-  
 peln G. m. b. H.*  
*Strobl, H., 2482.*  
*Strosacker, C., 581, 912.*  
*Strosacker, C., and C. Schwegler, 211, 581, 1720.*  
*Strothmann, H., 1266.*  
*Stuart, J., see T. Holt.*  
*Stuber, W., 2530.*  
*Stubner, E. de, 130, 300, 723, 835, 1905, 2477.*  
*Studienges, see C. Ehrenberg.*  
*Stulemeyer, C., 1231.*  
*Sturtevant, F., 723, 724.*  
*Sudheim & Koppen, 1808.*  
*Sugden, S., J. Reed and H. Wilkins, 1280.*  
*Suida, H., see I. G. Farbenind.*  
*Suida, H., 581, 629, 724, 835, 836, 912, 1015, 1016, 1040, 1268, 1355, 1389, 1398.*  
*Suida, H., and H. Titsch, 664, 725, 836, 1624.*  
*Suida, W., 1, 2, 5, 6, 7, 1299.*  
*Sulzberger, N., 581.*  
*Sulzer, A., 97, 98, 300, 581, 725, 1014, 1096, 1854, 1935, 2485, 2506, 2514, 2515.*  
*Sulzer, A., and H. van Derhoef, 98.*  
*Sundstrum, C., and C. Lykes, 1245.*  
*Susich, G. v., see H. Mark.*  
*Susich, G., see St. v. Naray-Szabo.*  
*Susich, G. v., and W. Wolff, 1219.*  
*Sussmuth, J., 1016, 2142.*  
*Suter, H., 912, 1016, 1070, 2101, 2133.*  
*Sutherland, D., 484, 725, 1802, 1863, 2245.*  
*Sutherland, D., and W. McLaurin, 485, 1837.*  
*Sutherland, D., and The Wall Pa-  
 per Manufacturers, Ltd., 485, 1862.*  
*Sutherland, L., see H. Saunders.*  
*Sutter, B., 485.*  
*Suzuki, S., see I. Sakurada.*  
*Svanberg, O., 1498.*  
*Swallen, L., see C. Simms.*  
*Swallen, L., and W. Bannister, 1016.*  
*Swallen, L., and Commercial Sol-  
 vents Corp., 858.*  
*Swann, H., see British Dyestuffs  
 Corp.*  
*Swann, H., see J. Baddiley.*  
*Swann, H., see J. Payman.*  
*Swanson, H., see K. van Renns-  
 selaer.*  
*Sweet, S., see S. Sheppard.*  
*Swett, C., 2472.*  
*Swindells, E., 581.*  
*Swinne, R., see P. Walden.*  
*Swoboda, K., 2140, 2148.*  
*Symons, P., 1786, 1929.*  
*Syndicate d'Etudes des Matieres  
 Organiques, 1154.*  
*Syniewsky, V., 1619.*  
*Syntheta, A.-G., 840, 2126.*  
*Synthetic Patents Co., 10, 1447.*  
*Szarvasy, E., see J. Pfeifer.*  
*Szarvasy, E., 1251.*  
*Szego, E., 1154.*  
*Szek, J., and G. Schauli, 2603.*  
*Szelinski, B., 365, 1807, 1986, 2046.*  
*Taboury, F., see M. Godchot.*  
*Taboury, F., 1275.*  
*Tackles, Freres, 912, 2502.*  
*Taft, R., and J. Stareck, 1016.*  
*Tagliani, G., 725, 1684.*  
*Takagi, K., see K. Matuura.*  
*Takahashi, T., 1942.*  
*Takamatsu, Y., see I. Fukushima.*  
*Takemura, K., 1951.*  
*Takemura, K., and K. Oiwa, 1951.*  
*Takubo, K., see K. Goto.*  
*Talbot, J., 836, 2587.*  
*Tamba, R., 582.*  
*Tambor, J., 1265.*  
*Tanaka, Y., see K. Atsuki.*  
*Tanaka, Y., and K. Atsuki, 725.*  
*Tanberg, A., see H. Hopkins.*  
*Tanemura, K., 913, 2501, 2502.*  
*Tanemura, K., and S. Miyoshi, 913.*  
*Taniguchi, M., see I. Sakurada.*  
*Tanner, C., and Imperial Chemical  
 Industries, Ltd., 1016.*  
*Tanret, C., 1132.*  
*Tate, A., 913, 2219.*

- Tatu, H., 913, 1017.  
*Tatum, W., see J. Baddiley.*  
*Tatum, W., see British Dyestuffs Corp.*  
*Tatum, W., see Imperial Chemical Industries, Ltd.*  
 Tatum, W., W. Todd, L. Hooley and J. Thomas, 2296.  
*Taub, L., see Farbenfabriken.*  
 Taub, L., and H. Hahl, 1959, 1964.  
*Tauber, L., see E. Wederkind.*  
 Taveau, R., 1262, 1279.  
*Taylor, A., see J. Hardcastle.*  
*Taylor, A., see V. Lebourreau.*  
 Taylor, C., 726, 1969.  
 Taylor, C., and W. Rinkenbach, 725.  
 Taylor, D., 726.  
 Taylor, H., 2108, 2609.  
*Taylor, J., see Courtaulds, Ltd.*  
 Taylor, J., 836, 1288.  
 Taylor, T., 726.  
 Taylor, T., and L. Lehrman, 726.  
*Taylor, W., see British Celanese, Ltd.*  
*Taylor, W., see H. Dreyfus.*  
 Taylor, W., 2094, 2169, 2372.  
 Taylor, W., and R. Roberts, 2197.  
*Teece, E., see W. Haworth.*  
*Tegtmeyer, H., see W. Walter.*  
 Teichgraeber, Th., A. G., 486.  
*Teinturerie de la Rize, see Farberci de la Rize.*  
 Teinturerie de la Rize, 726, 2232.  
*Templeton, E., see Courtaulds, Ltd.*  
 Tenen, H., 582, 726, 2393.  
 Tennant, W., 726, 2370.  
 Tennessee Eastman Corp., 1017.  
*Ter Horst, A., see Fabriek van Chemische Production.*  
 Terlinck, E., 726.  
 Terry, E., and J. Stieglitz, 727.  
*Terui, S., see S. Oguri.*  
*Tesse, T., see Soc. Nauton Freres et de Marsac.*  
 Tesse, T., 485, 582, 727, 1861, 1862, 1863, 1892, 1930, 1931, 2032, 2045, 2483, 2484.  
 Tesse, T., and L. Jaloustre, 2484.  
 Tessler, A., 430.  
 Tetralin Ges., 582, 1991.  
*Teupel, E., see I. G. Farbenindustrie.*  
 Teupel, E., 98, 130, 242, 258, 1440, 1448, 1449, 1452, 1454, 1601.  
*Thall, E., see O. Carlsson.*  
 Thau, M., 1017, 1813, 1944.  
 Thayer, F., 1289.  
 Thenard, P., 311.  
 Thenoz, R., 166, 2097, 2109.  
 Thenoz, R., and H. Barthelemy, 166, 2109.  
 Theumann, H., 2663.  
*Theumann, M., see J. Koetschet.*  
*Theumann, M., see Soc. Chim. des Usines du Rhone.*  
 Theumann, M., 164, 166, 727, 1017, 1040, 1896, 1899, 2198, 2239, 2476, 2477, 2563, 2579, 2663.  
 Theumann, M., and Soc. pour la fabrication de la soie Rhodiaseta, 727.  
 Thiele, E., 100, 1199, 2081.  
 Thiele, J., 330.  
 Thiele, O., 2619.  
 Thiele, W., 836, 2434.  
 Thieme, O., 2030.  
*Thierry, A., see J. Thierry.*  
 Thierry, J., and A. Thierry, 2472.  
 Thilmany, A., 1231.  
*Thinius, K., see A. Weihe.*  
 Thiriet, A., 1171.  
*Thom, J., see T. Craddock.*  
 Thomae, A., 914, 2604.  
 Thomas, 2472.  
*Thomas, J., see E. Beckett.*  
*Thomas, E., see British Celanese, Ltd.*  
*Thomas, E., see S. Schryver.*  
*Thomas, H., see W. Haworth.*  
*Thomas, J., see E. Beckett.*  
*Thomas, J., see B. Corson.*  
*Thomas, J., see A. Dandridge.*  
*Thomas, J., see H. Drescher.*  
*Thomas, J., see D. Fairweather.*  
*Thomas, J., see Imperial Chemical Industries, Ltd.*  
*Thomas, J., see W. Rintoul.*  
*Thomas, J., see Scottish Dyes, Ltd.*  
*Thomas, J., see W. Tatum.*  
*Thomas, J., see J. Wilson.*  
*Thomas, J., see B. Wylam.*  
 Thomas, M., 2603.  
 Thomas, P., 485.  
*Thomas, R., see J. Norris.*  
 Thomaschewski, P., 1264.  
 Thompson, 1266.  
*Thompson, F., see E. Knecht.*  
 Thompson, F., 377, 414.  
*Thompson, G., see C. Macintosh & Co., Ltd.*  
 Thomsen, 2611.  
 Thomson, 1276.  
 Thomson, E., and J. Callan, 341, 1734, 1859.

- Thomson, G., 836, 915.  
*Thomson, N., see G. Given.*  
*Thomson, R., see Imperial Chemical Industries, Ltd.*  
 Thorin, E., 582, 583, 723.  
*Thornley, S., see Imperial Chemical Industries, Ltd.*  
 Thornton, J., 414, 485, 486, 583, 727, 836, 2501, 2504, 2588.  
 Thorp, L., 1963.  
 Thorpe, T., and J. Rodger, 1275.  
*Threefall, R., see G. King.*  
*Thurlow, H., see Gross, Sherwood & Heald, Ltd.*  
*Thurlow, H., see R. Phillips.*  
*Tidmus, A., see British Celanese, Ltd.*  
 Timbersbrook, Ltd., and A. Hall, 2091.  
 Timmermanns, J., 1276.  
 Timmermanns, J., and F. Martin, 1276.  
*Tinsley, J., see W. Billing.*  
*Tipson, R., see H. Hibbert.*  
*Tipson, R., see P. Levene.*  
*Tissier, C., see A. Behal.*  
 Titanine, Ltd., and P. Bowles, 583, 1796.  
 Titanine, Ltd., T. Ward and J. Fletcher, 583, 2059.  
 Titherley, A., 1932.  
*Titsch, H., see I. G. Farbenind.*  
*Titsch, H., see H. Suida.*  
 Titus, R., C. Staud and H. Gray, 1152.  
 Tizier, A., and L. Rambaud, 2045.  
*Tobel, G. zum, see W. Weltzien.*  
 Tocco, G., 1017, 1044, 2102, 2371, 2530.  
 Tocco, G., and A. Nyssens, 914, 1017.  
 Todd, J., 2608.  
*Todd, W., see W. Tatum.*  
 Todd, W., 727, 2291.  
*Toeldte, W., see B. Helferich.*  
*Tollens, B., see W. Cross.*  
*Tollens, B., see O. v. Faber.*  
*Tollens, B., see J. Murumow.*  
 Tollens, B., 1291, 1618.  
 Tomahisa, 2663.  
 Tomecko, C., and R. Adams, 99, 1636.  
 Tomihisa, 2663.  
*Tomihisa, R., see G. Kita.*  
 Tomihisa, R., 1208.  
 Tommasi, N., and H. Danneel, 583.  
 Tomonari, T., 1053, 1784.  
 Tomonari, T., C. Trogus and K. Hess, 1987.  
*Tompkins, H., see W. Dreaper.*  
*Tompson, F., see C. O'Sullivan.*  
 Tondl & Co., 423.  
 Tone, F., 2059.  
*Tong, W., see Kirkless, Ltd.*  
*Tonkin, R., see Scottish Dyes, Ltd.*  
 Tootal Broadhurst Lee Co., Ltd., and R. Foulds, 102, 728.  
*Tootal, S., see Dyanese, Ltd.*  
 Tootal, S., 837.  
 Tootal, S., 1924, 2208, 2259.  
*Topham, C., see Courtaulds, Ltd.*  
*Topham, C., see W. Glover.*  
*Topley, B., see C. Hinshelwood.*  
 Torii, 847.  
 Torii, O., 583.  
 Torres, C., and L. Socias, 1720.  
 Townsend, C., 328.  
 Trachsler, E., 583, 2136.  
 Traill, D., and Imperial Chem. Industries, Ltd., 2635.  
 Traill, D., 306, 1542, 1545, 1558.  
 Traill, D., and Imperial Chemical Industries, Ltd., 214.  
 Traill, D., and A. Levesley, 1362, 2405.  
*Traquair, J., see C. Cross.*  
*Traquair, J., see A. Kldiaschwili.*  
 Traquair, J., 484, 1490, 1491.  
 Traube, W., 728, 914, 1199, 1271, 1680, 1681.  
 Traube, W., B. Blaser and C. Grunert, 728, 1681.  
 Traube, W., B. Blaser and E. Lindemann, 1681.  
 Traun's (H.) Forschungslaboratorium, 583, 584.  
*Trautz, M., see W. Muehlhaeusser.*  
*Trench, G., see S. Mackie.*  
 Trench, G., 2003.  
*Trenckmann, B., see E. Trenckmann.*  
 Trenckmann, E., and B. Trenckmann, 2603.  
 Trevoux, L., 577.  
 Trickey, J., 1999, 2000.  
 Trigg, C., 1253.  
 Triggs, W., 1058, 2017.  
 Triglos, L., 1181.  
 Trillat, J., 728, 837, 914, 1018, 1179, 1324.  
 Trimmer, M., 728, 1900, 1904.  
*Triplex Safety Glass Co., Ltd., see C. Cross.*  
*Triplex Safety Glass Co., see W.*

- Lyttleton.*  
 Triplex Safety Glass Co., 1935.  
 Triplex Safety Glass Co., W. Lyttleton, J. Wilson and H. Dick, 915, 2586.  
 Triplex Safety Glass Co., Ltd., and J. Willson, 2595.  
 Trivelli, A., 99, 486, 1937, 2413, 2516.  
*Trogus, C., see K. Dziengel.*  
*Trogus, C., see K. Hess.*  
*Trogus, C., see T. Tomonari.*  
 Trogus, C., 2622.  
 Trogus, C., H. Halberschadt and K. Hess, 915.  
 Trogus, C., and K. Hess, 211, 875, 1327, 1371, 1749.  
 Trogus, C., K. Hess and J. Katz, 875.  
 Trommsdorff, 1277.  
 Trotman, S., 1769.  
 Truax, T., 1043.  
 Truempler, G., 166, 837.  
*Truesdale, R., see Dunlop Rubber Co., Ltd.*  
 Trümpler, G., 1885, 2393, 2404, 2566, 2582.  
*Truscott, S., see I. Jacobsohn.*  
*Tschirch, E., see D. Krueger.*  
 Tschugaeff, L., 1634.  
 Tsuzuki, Y., 837, 1492.  
 Tubize Artificial Silk Co., 2084.  
 Tubize Artificial Silk Co., E. Bind-schedler and G. Juer, 584.  
*Tucker, T., see Cellon, Ltd.*  
*Tucker, T., see Cellon, Ltd., Tyrer & Co.*  
 Tucker, W., 1358.  
 Tuckfield, C., and W. Garland, 2129.  
 Tull, R., 1018, 2552.  
 Tully, F., 486.  
 Tunison, B., 1833.  
 Tunmann, O., 1163.  
 Turgand, H., 1358.  
 Turkington, V., 1918, 2404.  
 Turner, F., J. Starck, J. Craig and P. Packman, 584, 2605.  
*Turney, E., see Courtaulds, Ltd.*  
*Twemlow, A., see Imperial Chemical Industries, Ltd.*  
*Twiss, D., see Dunlop Rubber Co., Ltd.*  
 Twitchell Process Co., 1018, 2207, 2218.  
*Tyce, G., see British Celanese, Ltd.*  
*Tyce, G., see S. Fulton.*  
 Tyler, W., 2603.  
*Tyrer, T., see Cellon, Ltd.*  
 Tyrer, T., 584, 1984.  
*Tyrer, T., & Co., Ltd., see Cellon, Ltd.*  
 Ubbelohde, 592.  
 Ueda, Y., and K. Hata, 729.  
*Uematsu, T., see G. Kita.*  
 Uhland, W., 1154.  
*Uhseemann, R., see D. Strauss.*  
 Ullmann, F., 1261, 1266.  
 Ullmann, F., and P. Wenner, 1266.  
 Ullrich, A., 1018.  
*Ulmann, M., see K. Hess.*  
 Ulmann, M., and K. Hess, 1497.  
 Ulzer, and F. Marsden, 353.  
*Umstaetter, H., see E. Berl.*  
 Underwood Typewriter Co., 2499.  
 Ungar, 1630.  
 Ungar, E., 1309.  
 Union Carbide Co., 487.  
 Unruh, A. von, 487, 2619.  
 Untiedt, F., 729.  
 Urban, H., 130, 149, 1176, 1309, 1310, 1325, 1622, 1623, 1633.  
*Urban, M., see H. Gault.*  
 Urquhart, A., and A. Williams, 1620.  
 Uschakov, S., and I. Schneer, 1331.  
 Ushakov, S., 2566.  
*U. S. Industrial Alcohol Co., see B. Herstein.*  
 U. S. Industrial Alcohol Co., 838, 915, 916, 1018, 1049.  
 U. S. Industrial Alcohol Co., and A. Backhaus, 729.  
 Usines de Melles (formerly Soc. anon. des distilleries des Deux-Sevres), 1066.  
 Usines Electriques de la Lonza Suisse, 487.  
 U. S. Phonograph Co., 2603.  
 Uthelm, S., 487.  
 Utz, 487.  
*Uyeda, Y., see N. Senda.*  
*Vack, C., see T. Wilder.*  
 Vains, A. de, 584, 1171.  
 Valenta, E., 339, 2501.  
*Valentin, F., see E. Votocek.*  
 Valentine, H., and E. Simpson, 584, 2436.  
 Valet, E., and O. Funk, 729.  
 Valette, 1019.  
*Vallette, J., see L. Meunier.*



- Van Buggenhoudt, R., and R. Homeyer, 2349.  
 Vance, C., and J. Vetter, 487.  
 Vanderbilt, Co., R., *see* I. Sproat.  
 Van der Want, D., *see* S. Vles.  
 Van der Want, D., *see* Want, D. van der.  
 Van Doerhoef, H., 2529.  
 Van Dyke, R., *see* C. Staud.  
 Van Dyke, R., C. Staud and H. Gray, 1019, 1411.  
 Van Dyke, R., C. Webber and C. Staud, 1019.  
 Van Heuckeroth, A., 916, 2400.  
 Van Lerven, H., 2489.  
 Van Schaack, R., 729, 1837, 1934, 1941, 1946, 1952, 1953, 1972, 1977, 2000.  
 Van Schaack, R., and R. Calvert, 916.  
 Vanselow, A., *see* C. Benedetti.  
 Vanselow, W., *see* C. Benedetti.  
 Vanselow, W., *see* J. McNally.  
 Vasseur, J., *see* M. Houdard.  
 Vavon, G., and J. Detrie, 585.  
 Velluz, L., *see* J. Loiseleur.  
 Velten, H., *see* W. Schramek.  
 Velvril Co., Ltd., 2056.  
 Vender, V., 1926.  
 Venter, O., 1247.  
 Vere, C. de, 2615.  
 Verein fuer Chemische Industrie, 419, 424, 427, 428, 487, 585, 729, 730, 838, 1019, 1040, 1458, 1902, 2567.  
 Verein. f. Chem. Ind., A.-G., and E. Loew, 730, 916.  
 Verein fur Chem. Ind. A.-G. and H. Walter, 916.  
 Verein fur Chem. Ind. A.-G., and K. Werner, 917, 1019.  
 Verein fur Chemische und Metallurgische Produktion, 916.  
 Verein Chem. Werke and K. Luedecke, 585.  
 Vereinigte Glanzstoff Fabriken A.-G., *see* E. Bronnert.  
 Vereinigte Glanzstoff Fabriken, A.-G., 386, 387, 388, 487, 1172, 1687, 1902.  
 Vereinigte Glanzstoff-Fabriken A.-G., and F. Paschke, 730.  
 Verley, A., 508, 1857.  
 Vernis Soehnee Freres, 2429.  
 Verpillot, F., 1072.  
 Versicolor Dufay, *see* Compagnie d'Exploitation des Procèdes de Photographie en Couleurs L. Dufay.  
 Vescier, G., *see* F. Desbriere.  
 Vetter, J., *see* C. Vance.  
 Vickers, Ltd., *see* J. McKechnie.  
 Vickers, Ltd., and J. McKechnie, 474.  
 Vickers, Ltd., J. McKechnie and A. Ryan, 488, 1924.  
 Vielle, J., *see* H. Plauson.  
 Vieweg, W., 405, 431, 1188, 1199, 1202, 1211, 1215, 1217.  
 Vignon, L., 3, 1137, 1140.  
 Vignon, L., and F. Gerin, 334.  
 Vila, A., *see* M. Douane.  
 Villiers, A., 1257, 1280.  
 Villedieu, C., *see* H. Bittner.  
 Vincent, C., and B. Delachanal, 1251, 1252.  
 Virck, P., *see* O. Spengler.  
 Virck, P., 917.  
 Viscose Development Co., Ltd., *see* C. Cross.  
 Viscose Development Co., and J. Morford, 382.  
 Viskex, 730.  
 Vivas, F., 1561, 1804, 1814.  
 Viviani, E., 917.  
 Vles, S., 696, 838, 917, 1020, 2191.  
 Vles, S., and L. de Hoop, 1020.  
 Vles, S., and D. Van der Want, 839.  
 Voeller, F., *see* R. Müller.  
 Vogel, E., 1911.  
 Vogel, H., *see* A. Pictet.  
 Vogt, R., *see* J. Nieuwland.  
 Voigt, J., *see* A. Ruppert.  
 Voigt, O., 357.  
 Vollmann, H., 585.  
 Voluinkin, N., 1079.  
 Vongerichten, E., and F. Mueller, 1107.  
 Voorhees, V., *see* R. Adams.  
 Voress, C., *see* G. Burrell.  
 Vorsteher, P., 2472.  
 Voss, A., *see* G. Kraenzlein.  
 Voss, A., 1810, 1860.  
 Voss, J., *see* M. Schmidt.  
 Voss, W., 1250.  
 Voss, W., and E. Blanke, 1250.  
 Voswinkel, A., 2002.  
 Votocsek, E., and F. Valentin, 1498.  
 Voznesenskii, N., and M. Chilikin, 585, 2485.  
 Vriesland, A. van, 414.  
 Vrij, J. de, 1255, 1275.  
 Vulquin, E., *see* M. Entat.

- Wacek, A. von, 166, 252, 725, 1622, 1623, 1624.  
Wacker, A., 252, 839.  
*Wacker Ges. Ind., A., see F. Kauf-  
ler.*  
Wacker, A., Gesellschaft fur Elek-  
trochemische Industrie, 212, 252,  
300, 301, 730, 797, 1020, 1058,  
1068, 1075, 1270, 1352, 1359, 1450,  
1452, 1453, 1801.  
Wacker, A., Ges. fur Elektrochem.  
Ind. and L. Hoermann, 585.  
Wade, A., 840.  
Wade, H., 917, 2101, 2534.  
*Wadewitz, M., see B. Rassow.*  
*Waele, A. De., see DeWaele, A.*  
Waentig, P., 1180, 1194, 1208, 1352.  
Wagishauser, C., 1815.  
Wagner, A., 4, 338, 2563.  
Wagner, C., 1247, 2480.  
Wagner, E., 427, 448, 585, 586,  
2256.  
Wagner, H., 212, 241.  
Wagner, H., A. Kuchenbecker, R.  
Huss and C. Mueller, 242, 2297.  
Wagner, W., 731.  
Wahl, A., and J. Rolland, 840.  
Wahlberg, H., 1240.  
*Wahlig, W., see E. Berl.*  
*Wainwright, J., see British Celand-  
nese, Ltd.*  
Waite, C., 338, 1893.  
Waite & Son, Ltd., 2567.  
*Wakefield, G., see Cellulose Acetate  
Silk Co., Ltd.*  
Walcott, 2663.  
Walden, P., 1262, 1280.  
Walden, P., and R. Swinne, 1840.  
Walen, E., 488.  
*Walker, E., see British Celanese,  
Ltd.*  
*Walker, E., see H. Dreyfus.*  
*Walker, E., see G. Ellis.*  
Walker, E., 2603.  
*Walker, F., see Imperial Chem. In-  
dustries, Ltd.*  
Walker, G., 1861.  
Walker, H., 1843.  
Walker, J., 1255, 1276.  
Walker, J., and F. Johnson, 1254,  
1267.  
Walker, W., 346, 373, 402, 407,  
1859, 1861, 2048, 2607.  
*Walker, W., see H. Mork.*  
Walker, W., and H. Mork, 329.  
Wallace, J., 1150.  
Wallers, J., 2031.  
*Wallwork, J., see J. Leitch & Co.,  
Ltd.*  
*Wall Paper Mfrs., Ltd., see D.  
Sutherland.*  
*Wallwork, J., see J. Leitch & Co.,  
Ltd.*  
*Walsh, J., see W. Bowker.*  
*Walsh, J., see Celluloid Corp.*  
Walsh, J., 1027, 1972, 1973, 2502,  
2506, 2596.  
Walsh, J., B. Anderson and Cellu-  
loid Corp., 1020.  
Walsh, J., and A. Caprio, 1066,  
1915, 2560, 2596.  
Walsh, J., A. Caprio and Cellu-  
loid Corporation, 1993.  
Walsh, J., and K. Flynn, 2505, 2560.  
Walsh, J., and A. Steinberger,  
2644.  
Walsh, J., and J. Stevens, 2585.  
*Walter, H., see Verein fur Chem.  
Ind. A.-G.*  
Walter, H., 1040.  
Walter, J., 2016.  
Walter, K., 2143.  
*Walter, W., see I. G. Farbenindus-  
trie, A.-G.*  
Walter, W., E. Hartmann and H.  
Tegtmeyer, 1049.  
Walter, W., and L. Lock, 1063.  
*Walters, G., see Columbia Grapho-  
phone Co., Ltd.*  
*Walters, G., see W. Forse.*  
*Walti, A., see P. Levene.*  
*Walton, C., see W. Crooks.*  
*Walton, J., see C. Rosenbaum.*  
Walton, R., 1480.  
Wampler, R., 2585.  
Wandrowsky, A., 488.  
Wandrowsky, H., 2435.  
Want, D. van der, 1204.  
Ward, 586.  
*Ward, A., see British Thomson-  
Houston Co., Ltd.*  
Ward, A., and G. Bray, 1999.  
*Ward, E., see J. Haste.*  
*Ward, J., see British Aeroplane  
Varnish Co., Ltd.*  
*Ward, K., see H. Pringsheim.*  
*Ward, T., see S. Groves.*  
*Ward, T., see E. Schierz.*  
*Ward, T., see Titanine, Ltd.*  
Ward, T., and J. Hand, 2637.  
*Waring, C., see H. Clarke.*  
*Waring, C., see C. Staud.*  
Warren, A., and British Metallising  
Co., 1020.

- Warren, F., *see* Dunlop Rubber Co., Ltd.  
 Warren, H., 2458.  
 Warren, H., *see* Brit. Thomson-Houston Co., Ltd.  
 Warren, S. D., Co., and W. Drier-sen, 1971.  
 Warrington, J., *see* Crosfield & Sons.  
 Waterman, H., *see* W. Coltof.  
 Watkins, G., *see* J. Brier.  
 Watkins, G., 1078, 2583, 2584, 2586, 2596, 2636.  
 Watson, J., 731.  
 Watt, M., *see* J. Norris.  
 Watts, H., *see* E. Bowen.  
 Waugh, D., *see* B. Corson.  
 Wayss, A., *see* K. Gasiorowski.  
 Webb, J., *see* W. Haworth.  
 Webb, R., *see* Baker Perkins, Ltd.  
 Webb, W., *see* P. Seel.  
 Webb, W., 99, 131, 222, 586, 1269, 1813, 1814, 1816, 1823, 1825, 1840, 1863, 1913, 1916, 1927, 1958, 2516.  
 Webb, W., and Carbide & Carbon Chemicals Corp., 1262.  
 Webb, W., and H. Clarke, 1092.  
 Webb, W., and C. Malm, 731.  
 Webber, C., *see* H. Gray.  
 Webber, C., *see* Kodak, Ltd.  
 Webber, C., *see* C. Staud.  
 Webber, C., *see* H. Gray.  
 Webber, C., *see* R. Van Dyke.  
 Webber, C., and C. Staud, 918, 1021, 1022, 1056, 1064, 1604, 1617, 1700, 1734, 1738, 1877.  
 Webber, C., C. Staud and H. Gray, 918, 1040, 1128.  
 Webber, R., *see* M. Schur.  
 Weber, A., 840.  
 Weber, A., H. Hoppner and H. Weich, 840, 918.  
 Weber, C., *see* C. Cross.  
 Weber, C., *see* I. Frankenburg.  
 Weber, C., 3, 324.  
 Weber, C., and C. Cross, 1697, 1700, 1702, 1842, 2002, 2003.  
 Weber, E., 1022, 2566.  
 Weber, F., *see* I. G. Farbenindus-trie, A-G.  
 Weber, F., *see* L. Laska.  
 Weber, F., 686, 2294.  
 Weber, H., 1253, 2053.  
 Weber, K., 2054.  
 Weber, S., 1266.  
 Wedekind, 1596.  
 Wederkind, E., O. Engel, K. Storch and L. Tauber, 1175.  
 Wedorf, 8, 22, 47.  
 Weeber, R., 395, 488.  
 Weedon, W., and E. I. du Pont de Nemours Co., 1868.  
 Wege, H., 1887.  
 Wegl, M., *see* C. Wegl.  
 Wegl, C., and M. Wegl, 2499.  
 Wegner, K., 731, 2020.  
 Wegscheider, R., and A. Klemenc, 1929.  
 Wegscheider, R., and E. Spaeth, 1995.  
 Wehrli, W., *see* P. Karrer.  
 Weich, H., *see* A. Weber.  
 Weidenhagen, R., *see* O. Spengler.  
 Weidig, J., 1882.  
 Weidig, J., and Cellulose Utilities Corp., 918.  
 Weidinger, A., *see* J. Katz.  
 Weidinger, A., *see* H. Pringsheim.  
 Weidmann, S., and E. Schweitzer, 1257.  
 Weihe, A., O. Leuchs and E. Doerr, 269.  
 Weihe, A., O. Leuchs, E. Doerr and Deutsche Celluloid-Fab., 1671.  
 Weihe, A., K. Thinius and Deutsche Celluloid-Fabrik, 1696.  
 Weiler-ter-Meer, *see* Chem. Fabr. vorm. Weiler-ter Meer.  
 Weimarn, P. von, 574.  
 Wein, S., 731, 2443.  
 Weinand, C., *see* W. Duisberg.  
 Weinberg, A., *see* M. Hoffman.  
 Weingand, R., *see* E. Czapek.  
 Weingand, R., *see* Wolff & Co.  
 Weingand, R., *see* Wolff & Co., Kommandit-Gesellschaft auf Aktien.  
 Weingand, R., 1075, 2535.  
 Weinhausen, A., *see* P. Karrer.  
 Weinheim, E., 488.  
 Weinland, R., and K. Schmid, 1255, 1263, 1276.  
 Weinreb, K., *see* H. Pringsheim.  
 Weis, S., *see* M. Gentile.  
 Weisbrod, K., *see* E. Hubert.  
 Weisbrod, K., *see* I. G. Farbenind. A-G.  
 Weisbrod, K., 2080, 2523.  
 Weissenberg, K., and B. Rabino-witsch, 301, 1876, 2084, 2134.  
 Weissenberger, G., 100.  
 Weith, A., and O. Holzmann, 840, 2559.  
 Weitz, H., 1022.

- Weizmann, C., 488.  
Welch, S., *see* *British Celanese, Ltd.*  
Welch, S., *see* *British Cellulose & Chemical Mfr. Co., Ltd.*  
Welch, S., *see* H. Dreyfus.  
Welch, S., *see* C. Ryley.  
Weller, A., *see* W. Robinson-Bindley.  
Weller, A., and W. Robinson-Bindley, 586.  
Welling, W., 2607.  
Wells, A., *see* C. Ellis.  
Wells, J., 1022, 1037, 2502, 2535.  
Wells, J., and C. Wynd, 2530.  
Wells, S., *see* O. Kress.  
Weltzein, *see* Weltzien.  
Weltzein, 2662.  
Weltzien, 2662.  
Weltzien, W., *see* K. Hess.  
Weltzien, W., 809, 918, 2224.  
Weltzien, W., and A. Brunner, 1022.  
Weltzien, W., and G. zum Tobel, 1192.  
Wendt, B., and H. Bincer, 240, 1594, 1609.  
Wenk, B., *see* I. G. Farbenindustrie, A.-G.  
Wenner, P., *see* F. Ullmann.  
Werner, E., 1264, 1266.  
Werner, K., *see* Verein für Chem. Ind. A.-G.  
Werner, K., 918, 1022, 1041, 1054, 1458.  
Werner, K., and H. Engelmann, 791, 841, 1355, 1788.  
Werring, W., 1022, 2566.  
West, C., 22, 47, 80, 1471.  
Western Electric Co., 2438.  
Western Industries Co., 1833.  
Westfälisch Anhaltische Sprengstoff, 1845.  
Westgarth, G., *see* W. Haworth.  
Westhoff, F., *see* H. Ost.  
Westhoff, F., 357.  
Westman, E., *see* J. Rhodin.  
Weston, E., 2003.  
Weston, F., 1275.  
Weston, L., 731, 2028.  
Wetherill, C., 1282.  
Weyenbergh, E., *see* Breda-Visada.  
Weyenbergh, E. van, *see* W. Glover.  
Weyenbergh, E. van, 1228, 1243.  
Weyland, H., *see* L. Knorr.  
Weyler, J., *see* J. Grolea.  
Wheatley, R., 2485.  
Wheeler, E., 732.  
Wheelwright, H., 489.  
Whestley, R., 489.  
Whincop, J., *see* A. Pollard.  
Whinfield, J., *see* Calico Printers' Assoc., Ltd.  
Whitaker, M., 586, 1883, 1910, 1937.  
Whitby, G., 167, 732, 1708, 1864.  
Whitby, G., and W. Gallay, 840.  
Whitby, G., and J. Katz, 813.  
Whitby, G., J. McNally and W. Gallay, 813, 841.  
White, A., *see* L. Goodhue.  
White, B., *see* British Celanese, Ltd.  
White, B., *see* C. Dreyfus.  
White, B., *see* W. Moss.  
White, J., 841.  
White, N., 919, 1023, 2219.  
Whitehead, W., *see* British Celanese, Ltd.  
Whitehead, W., *see* British Cell. & Chem. Mfr. Co.  
Whitehead, W., *see* C. Dreyfus.  
Whitehead, W., *see* C. Palmer.  
Whitehead, W., *see* H. Platt.  
Whitehead, W., 841, 1023, 1062, 1084, 1088, 2094, 2121, 2220, 2231, 2237, 2255, 2270, 2308, 2320, 2376.  
Whitehead, W., and C. Dreyfus, 744, 747, 748, 1702.  
Whitfield, G., and Ilford, Ltd., 2635.  
Whitman, J., 2603.  
Whittaker, H., *see* W. Powell.  
Whittelsey, T., 1796.  
Whyte, S., *see* Gramophone Co., Ltd.  
Wibaut, J., 1267.  
Wick, G., *see* C. Schoenburg.  
Wickel, F., 732, 2433.  
Wickel, W., 2620.  
Wickes, C., 2603.  
Wickham, A., *see* Spicers, Ltd.  
Widdowson, R., *see* British Celanese, Ltd.  
Widmer, F., *see* P. Karrer.  
Widmer, G., *see* A. Gams.  
Widmer, G., *see* H. Staudinger.  
Wiederhold, H., *see* C. Ehrenberg.  
Wiesel, J., 1150.  
Wiesler, K., K. Bodensee and A. Peake, 1041.  
Wiesler, K., A. Peake and British Industrial Solvents, Ltd., 1023.  
Wietzel, R., *see* Badische Anilin & Soda Fabr.  
Wietzel, R., *see* Horst-Dietrich.

- Wietzel, R., 1968.  
 Wietzel, R., and M. Herbst, 1023.  
 Wignall, H., *see* *British Dyestuffs Corp., Ltd.*  
 Wilbert, H., 1240.  
 Wilbur, O., *see* W. Calcott.  
 Wilcox, W., 445.  
 Wild, J., *see* J. Lloyd.  
 Wild, R., 2480.  
 Wild, S., 2098, 2109.  
 Wilde, A. de, 1070.  
 Wilder, T., and C. Vack, 919, 2555.  
 Wildt & Co., Ltd., *see* W. Holmes.  
 Wilhelm, 587.  
*Wilhelmi, F., see E. Krause.*  
 Wilkening, L., *see* H. Ost.  
 Wilkins, H., *see* S. Sugden.  
 Willaman, J., 1156.  
 Willard, C., *see* J. Altwegg.  
 Willcox, O., 1289.  
 Willers, 587.  
 William, A., 1155.  
 Williams, A., *see* G. Collins.  
 Williams, A., *see* W. Parkin.  
 Williams, A., *see* A. Urquhart.  
 Williams, A., 1152.  
 Williams, C., 732.  
 Williams, D., 1902, 2373.  
 Williams, D., and J. Rowe, 732, 2491.  
 Williams, F., *see* W. Cameron.  
 Williams, F., *see* C. Dreyfus.  
 Williams, F., *see* H. Platt.  
 Williams, H., *see* *Manchester Oxide Co.*  
 Williams, H., 587.  
 Willkie, H., 587, 1770, 1915, 1930, 1931, 1949, 1970.  
 Willows, R., and A. Alexander, 1196, 1219.  
 Willows, R., T. Barratt and F. Parker, 1219.  
 Willstaetter, R., 1135.  
 Willstaetter, R., and L. Kalb, 1176.  
 Willstaetter, R., and G. Schudel, 1129.  
 Willstaetter, R., and L. Zechmeister, 25, 31, 1118, 1135, 1176, 1622, 1623.  
 Willstrop, *see* E. Mardles.  
 Wilson, E., *see* G. Barr.  
 Wilson, J., *see* *Triplex Safety Glass Co.*  
 Wilson, J., *see* *Imperial Chem. Industries, Ltd.*  
 Wilson, J., 1023.  
 Wilson, J., E. Beckett, J. Thomas and Scottish Dyes, Ltd., 902, 2252.  
 Wilson, J., and J. Thomas, 1100.  
 Wilson, J., J. Thomas and Scottish Dyes, Ltd., 902, 2244.  
 Wilson, L., *see* W. Glover.  
 Wilson, L., 100, 588, 1229, 1703, 1859, 1891, 1892.  
 Wimmer, J., *see* H. Mugdan.  
 Wingender, F., 588.  
 Winkelmann, M., *see* *Glaserit-Werke.*  
 Winkelströter, M., 2608.  
 Winkelströter, M., and P. Simons, 2608.  
 Winne, R., 2603.  
 Winsvold, A., *see* E. Heuser.  
 Winter, E., and A. Grimm, 1047.  
 Winter, L., 1498.  
 Winternitz, R., 1245.  
 Wintzell, T., *see* B. Holmberg.  
 Wirth, K., 2611, 2618.  
 Winzor, F., *see* G. Hughes.  
 Wirz, W., *see* *British Celanese, Ltd.*  
 Wirz, W., 2439.  
 Wisconsin Alumni Research Assoc., 919.  
 Wise, L., 1103.  
 Wislicenus, J., 1249.  
 Withers, J., *see* R. Fargher.  
 Witte, E., *see* J. Stockley.  
 Wittelsbach, W., *see* K. Hess.  
 Wittka, F., *see* A. Gruen.  
 Wittka, F., 1067.  
 Witz, G., 1137, 1139, 1140, 1142.  
 Witz, G., and F. Osmund, 1142.  
 Wohl, A., 332, 372, 396, 399, 409, 588, 1287, 1293, 1494, 1733, 1808, 1910, 1913.  
 Wohlgemuth, J., 1619.  
 Woker, G., *see* H. Maggi.  
 Woker, G., 1619.  
 Wolcott, 2663.  
 Wolcott, B., and C. Jennison, 588, 1698, 1703.  
 Wolcott, H., 2603.  
 Wolf, E., *see* G. v. Kereszty.  
 Wolf, E., 1290.  
 Wolf, H., *see* R. Boehringer.  
 Wolf, I., *see* W. Coltof.  
 Wolf, L., *see* B. Rassow.  
 Wolf, R., R. Hill and R. Hatch, 1179.  
 Wolff & Co., 841, 1171.  
 Wolff & Co., Komm. Ges. auf Akt. and R. Weingand, 2087.  
 Wolff & Co., and E. Czapek, 1082.

- Wolff & Co., E. Czapek and R. Weingand, 2176.  
 Wolff & Co., and H. Schulz, 131, 1464.  
 Wolff & Co., and R. Weingand, 167, 212, 254, 1023, 1082, 1172, 1240, 2528, 2529, 2415, 2598.  
 Wolff & Co., R. Weingand and F. Spiecker, 841, 2053.  
 Wolff, A., 826, 1942, 2319.  
 Wolff, H., 1288, 1790, 2061.  
 Wolff, H., and C. Dorn, 1770.  
 Wolff, H., and I. Rabinowicz, 1023, 1041, 1794.  
 Wolff, H., and B. Rosen, 1973, 1992.  
 Wolff, H., and R. Singer, 732, 1928.  
 Wolff, H., and H. Zellner, 1955.  
 Wolff, J., and B. Geslin, 1156, 1157.  
 Wolff, W., *see G. von Frank*.  
 Wolff, W., and M. v. Förster, 2002.  
 Wolff, W., *see G. v. Frank*.  
 Wolff, W., *see G. v. Susich*.  
 Wolfenstein, R., *see G. Bumke*.  
 Wolfenstein, R., and G. Bumke, 3.  
 Wolfenstein, R., and E. Oeser, 588.  
 Wolfenstein, R., and E. Oesser, 242.  
 Wolfgang, K., 733, 2173.  
 Wolfrom, M., 1503.  
 Wolkersdorfer, A., 1562.  
 Wolter, R., *see J. Reilly*.  
 Wood, E., 919.  
 Wood, E., and D. Brobst, 1099.  
 Wood, F., *see Courtaulds, Ltd*.  
 Wood, F., 212, 253, 301, 1108, 1619, 1620, 1621.  
 Wood, F., and A. Alexander, 167, 1320.  
 Wood, F., and E. Butterworth, 1620.  
 Wood, J., *see H. Burns*.  
 Wood, R., *see British Alizarine Co., Ltd*.  
 Wood, W., and H. Smith, 1681.  
 Woodbridge, R., *see H. Bradshaw*.  
 Woodbridge, R., 1891.  
 Woodhead, A., 919.  
 Woodhouse, H., *see W. Denham*.  
 Woodman, T., *see British Celanese, Ltd*.  
 Woodman, T., and W. Dickie, 841, 2354.  
 Woodruff, F., 2473.  
 Woodward, G., 2059.  
 Woodward, L., *see N. Sidgwick*.  
 Woolvin, C., *see E. Hirst*.  
 Wootton, E., *see J. Huebner*.  
 Worden, E., *see G. Miles*.  
 Worden, E., 1, 162, 301, 316, 333, 358, 359, 405, 419, 487, 489, 588, 589, 621, 1050, 1172, 1490, 1811, 1893, 1930, 2340, 2500.  
 Worden, E., and L. Rutstein, 419.  
 Worden, E., L. Rutstein, P. Drinker, J. Buford, and R. Dort, 436.  
 Wormell, R., *see Courtaulds, Ltd*.  
 Worrall, J., *see H. Livsey*.  
 Worrall, J., & J. M., Ltd., H. Livsey and G. Holden, 1041, 2380.  
 Worrall, J. M., Ltd., *see H. Livsey*.  
 Wotherspoon, S., 341.  
 Wotherspoon, W., 1490.  
 Wrede, F., and O. Hettche, 733.  
 Würtz, A., *see A. Lourenco*.  
 Wurth, C., 2603.  
 Wurtz, W., 1267.  
 Wylam, B., *see Imperial Chem. Industries, Ltd*.  
 Wylam, B., and J. Stevenson, 1681.  
 Wylam, B., and J. Thomas, 919.  
 Wylam, B., J. Thomas and Scottish Dyes, Ltd., 841.  
 Wyler, J., *see W. Lams*.  
 Wyler, M., *see Imperial Chemical Industries, Ltd*.  
 Wynd, C., *see J. Wells*.  
 Wyndham, W., *see British Dyestuffs Corp*.  
 Wynne, W., 1293.  
 Ximenez, M., 2553.  
 Yakimanskii, V., *see W. Jakimanskij*.  
 Yamagawa, M., *see P. Levene*.  
 Yamashita, T., *see Y. Kami*.  
 Yarsley, 847.  
 Yarsley, V., *see P. Chaumeton*.  
 Yarsley, V., *see Non-Inflammable Film Co., Ltd*.  
 Yarsley, V., 791, 1024, 1062.  
 Yasinskii, N., *see G. Dmitrieva*.  
 Ykiouchkin, E., *see A. Zakochtchikov*.  
 Yorke, W., *see J. Briggs*.  
 Young, A., *see L. Holliday & Co., Ltd*.  
 Young, C., *see G. Curme, Jr*.  
 Young, C., *see T. Purdie*.  
 Young, C., 733, 1843.  
 Young, D., *see F. Seaton-Snowdon*.

- Young, D., 2383.  
 Young, D., and J. Minuto, 2058.  
 Young, G., 100, 112, 733, 920, 1289, 1337, 1338, 1453, 1486, 1607, 1821, 1827, 1921, 2482.  
 Young, H., 1952, 1975.  
 Young, J., 589, 2400, 2603.  
 Young, J., and F. Spiers, 301, 1371.  
 Young, W., 920, 1024, 2339, 2603.
- Zabel, M., see F. Munz.*  
 Zänker, W., 2151.  
 Zänker, W., and H. Schreiber, 2130.  
 Zahn, C., 2179.  
 Zakarias, L., 589.  
 Zakochtchikov, A., I. Kohyeniov and E. Ykiouchkin, 1180.  
 Zand, A., 2611, 2616.  
 Zanetti, J., and C. Beckmann, 733.  
 Zapon-Lack G. m. b. H., 589, 1884, 2616.  
*Zay, C., see F. Scurti.*  
 Zdanowich, J., 590, 734, 1817, 1866, 2033, 2122, 2529.  
*Zechmeister, L., see R. Willstaetter.*  
 Zechmeister, L., 591.  
 Zeckendorf, A., and Maschinenbau A.-G., Gölzern Grimma, 2129.  
*Zega, Z., see P. Karrer.*  
*Zeh, L., see W. Duisberg.*  
*Zeh, L., see I. G. Farbenindustrie, A.-G.*  
 Zeisel, S., 2656, 2657.  
 Zelensky, M., 358.  
 Zelger, G., 167, 1100, 1898.  
 Zelinski, B., 1890.  
 Zeller, G., 1865, 1874, 1918.  
*Zellner, H., see H. Wolff.*  
 Zellstofffabrik Waldhof, 1233.  
 Zellstofffabrik Waldhof and A. Bernstein, 920, 2529.  
 Zellstofffabrik Waldhof, O. Faust & V. Hottenroth, 1233.  
 Zellstofffabrik Waldhof and V. Hottenroth, 591.  
 Zellstofffabrik Waldhof, H. Müller-Clemm and W. Leopold, 1171.  
 Zelluloidwaren Fabrik, 2567.
- Zemplen, G., 842, 1500.  
 Zemplen, G., and G. Braun, 1499, 1505.  
 Zemplen, G., and Z. Bruckner, 302, 1501.  
 Zemplen, G., and A. Gerecs, 1507.  
 Zemplen, G., A. Gerecs and J. Erdelyi, 1024.  
 Zemplen, G., and E. Pacsu, 842.  
*Zentner, M., see L. Schmid.*  
*Zentner, M., see L. Schmidt.*  
 Zerewitinoff, T., 1634.  
 Zetter, A., 1024, 2398.  
*Zickmann, P., see B. Rassow.*  
 Ziegler, K., 1777.  
*Zieke, E., see F. Seeligmann.*  
*Ziese, W., see M. Hagedorn.*  
*Ziffer, F., see R. Leiser.*  
*Zilberg, I., see O. Magidson.*  
 Zimmer, A., 383, 1825.  
 Zimmer, A., J. Bryce and G. Davies, 489, 1894.  
 Zimmer, F., 489, 1774, 1777, 2397.  
*Zimmerli, A., see A. G. Baykogarn.*  
 Zimmerli, A., 1024, 1969, 1978.  
 Zippel, F., 489.  
*Zitscher, A., see L. Laska.*  
*Zocher, H., see K. Freudenberg.*  
*Zoellner, E., see S. Puntambeker.*  
 Zollinger, E., 1264.  
 Zollinger, E., and A. Gruen, 591.  
 Zsigmondy, R., 591, 1106.  
 Zsigmondy, R., and W. Bachmann, 591.  
 Zuccari, G., 920.  
 Zuccato, E. de, 2498.  
*Zuckerbaecker, L., see A. Neumann.*  
 Zuckerman, E., 1818.  
 Zuehl, E., 41, 1338, 1828, 1888, 1896, 1906, 1928, 1948, 1969, 1978.  
 Zuehl & Eisemann, 340, 1826, 1888, 1895, 1896, 1906, 1928, 1942, 1961, 1970, 1979, 2053.  
 Zuhlkowsky, K., 1491.  
 Zuhlkowsky, K., and B. Franz, 1491.  
*Zuirin, N., see E. Fitzner.*  
 Zwartz, D., 734.  
 Zwick, H., 365.

# INDEX OF SUBJECTS

Transcribed by Clara Harmon Lewis

Classified and filed by Evelyn Philips

Note: The following includes both an index of the chemicals and compounds referred to within these pages, but in addition an index of the subjects and the intermediate methods of treatment of materials as well. The 50,394 separate citations of 40,746 different subjects, are distributed alphabetically as follows: A, 3,639 subjects, 4,481 separate references thereto; B, 3,308, 4,232; C, 7,140, 9,538; D, 2,692, 3,211; E, 2,810, 3,773; F, 1,523, 1,983; G, 1,293, 1,512; H, 935, 1,049; I, 515, 588; J, 35, 43; K, 100, 99; L, 950, 1,099; M, 3,305, 3,932; N, 1,095, 1,305; O, 409, 500; P, 3,423, 3,731; Q, 71, 94; R, 561, 760; S, 2,532, 2,794; T, 2,873, 3,575; U, 161, 202; V, 348, 443; W, 351, 403; X, 260, 299; Y, 75, 224; Z, 343, 414.

- Abietic acid, 1955, 2054, 2427.
- , glycerol condensed with, 234.
- , hydroxyalkyl ester of, 194.
- , lacquer containing, 2419.
- , pentaerythritol condensed with, 234.
- , sorbitol condensed with, 234.
- Abietic esters, 1954.
- Ablette, 2612.
- Abracol*, see *Abracol*.
- Abracol*, 789, 1860, 2043.
- , see also *p-Toluenesulfamide*, *p-Toluenesulfanilid*.
- Abracol 203*, see *p-Toluenesulfanilid*.
- Abracol 1001*, see *ter-Butylphenol*.
- Abrasive, cellulose acetate, mfr., 940.
- , cellulose ester delustered by, 221.
- , cellulose ether delustered by, 221.
- , mfr. of, cellulose ester in, 1081.
- Abrastol*, see *Asaprol*.
- Absorbent cotton*, see *Cotton, absorbent*.
- Acacia, 2058, 2205.
- , acetylated, stencil sheet made using, 2491.
- , cellulose acetate relustered by, 623.
- , cellulose ester treated with, 275.
- , cellulose ether treated with, 275.
- , delustring with, 2186.
- , discharge printing using, 961.
- , film made using, 2529.
- , glass, laminated, made using, 517.
- , printing fabric using, 2328.
- , printing paste containing, 951.
- , thickener, 2165.
- Acacia solution, printing paste containing, 2328.
- Acaroid, 225, 754, 1969, 2042, 2053.
- , benzylcellulose and, 175, 178.
- , board made using, 725.
- , board, insulation, electric, made using, 2445.
- , cellulose acetate and, 520.
- , cellulose ether combined with, 58.
- , ethylcellulose and, 175, 178.
- , insulating made using, 725.
- , lacquer containing, 2395.
- , methylcellulose and, 175.
- , panel made using, 725.
- , phonograph record of cellulose acetate and, 678.
- , record, phonograph, made using, 515, 536, 2605.
- Accumulator, electrode, cellulose acetate in mfr. of, 342.
- Acedronol, cellulose acetate dye-stuff, 677, 707.
- Aceloide, 665, 2567.
- Acelose, 2567.
- Acenaphthalene indigo, dyeing with, 2243.
- Acenaphthene, amines solvent for, 2008.
- Acenaphthenequinone, delustring with, 2185.
- Acenaphthoquinone, 2634.
- Acesil, 1009.
- Aceta, 780, 2567.
- , delustring, 909.
- , dyeing properties, 909.
- , filaments of, properties, 656, 657.
- , fluorescence, 909.
- , properties, 656, 657, 909.
- Acetal, 1873, 2044.
- , mfr. of, 895.
- , softener, 2216.



- Acetaldehyde, 61, 151, 666, 1845, 1864, 1865, 1923, 1999.  
 —, acetic acid made from, 447, 454, 473, 487, 492, 541, 654, 803, 867, 876, 926, 939, 973, 998, 1945.  
 —, acetic anhydride made using, 690.  
 —, acetylacetic ether made using, 429.  
 —, acetylene for mfr., 454, 481, 1034.  
 —, aldols from, 656, 714, 983.  
 —, aluminum oxide in mfr., 481.  
 —, amines solvent for, 2008.  
 —, benzene sulfonamide condensate of, 173.  
 —, cadmium phosphate as catalyst in mfr., 976.  
 —, cellulose acetate dyed using, 718.  
 —, cellulose acetate solvent, 458, 635.  
 —, cellulose etherified in presence of, 1435.  
 —, cellulose ether solvent, 186, 2088, 2089.  
 —, crotonaldehyde made with, 716.  
 —, ethyl acetate made using, 516.  
 —, ethyl alcohol from, 558.  
 —, ethylcellulose water-solubility diminished by, 1347.  
 —, ethylidene diacetate for mfr., 916, 1040.  
 —, film made using, 2522.  
 —, guanin insoluble in, 2614.  
 —, iron oxide in mfr., 481.  
 —, mfr. of, 446, 447, 448, 460, 473, 492, 496, 505, 515, 518, 519, 534, 541, 545, 562, 568, 571, 572, 577, 580, 582, 586, 588, 617, 625, 627, 650, 656, 661, 662, 668, 671, 684, 708, 719, 732, 761, 772, 781, 799, 802, 833, 866, 868, 873, 876, 927, 945, 977, 1002, 1016, 1018, 1023, 1039, 1041, 1046, 1047.  
 —, —, continuous, 482.  
 —, mercury sulfate in mfr. of, 1034.  
 —, nickel oxide in mfr., 481.  
 —, oxidation, 976.  
 —, phosphoric acid made using, 690.  
 —, properties, 974.  
 —, purifying, 1047.  
 —, resin, artificial, from, 1577.  
 —, vinyl acetate for mfr. of, 626.  
 —, xylene sulfonamide condensate of, 173.  
 —, zinc oxide in mfr., 481.  
 —, *see also Aldehyde*.  
 Acetaldehyde glycerol, 1995.  
 Acetaldehyde oxim, *see Acetaldoxim*.  
 Acetaldehyde diethylacetal, *see Acetal*.  
 Acetal, 1869, 1910.  
 —, ammonium manganese arsenate solvent, 479.  
 —, ammonium manganese phosphate solvent, 479.  
 —, ammonium phosphate solvent, 479.  
 —, brush lacquer containing, 464.  
 —, cellulose acetate plastic, 464.  
 —, mfr. of, 563.  
 —, *see also Aldol*.  
 Acetalglycerol, 1995.  
 Acetaloid, 2567.  
 Acetals, 2630.  
 —, benzylcellulose softener, 2412.  
 —, cellulose ether solvent, 2417.  
 —, ethylcellulose softener, 2412.  
 —, mfr. of, 625, 975, 998.  
 Acetal type, softeners of, 203.  
 Acetamide, 1645, 1748, 1889, 2007, 2028.  
 —, acetic anhydride made using, 826.  
 —, alkylamine made from, 500.  
 —, amines solvent for, 2008.  
 —, cellulose acetate inflammability reduced by, 942.  
 —, cellulose acetate plastifier, 340.  
 —, cellulose acetate solvent, 524.  
 —, cellulose dioxanthate combined with, 148.  
 —, cellulose xanthate combined with, 148.  
 —, formamide for mfr. of, 1046.  
 —, glass, laminated, made using, 2587.  
 —, mfr. of, 1012.  
 —, monomethylamine made using, 493.  
 —, plastic made containing, 2563.  
 —, polysaccharide solvent, 898.  
 —, starch xanthate combined with, 148.  
*a*-Acetamidoanthraquinone, cellulose acetate dyed using, 601.  
 —, cellulose ether dyed using, 2252.  
 1-Acetamidoanthraquinone, cellulose acetate dyed using, 606.  
 1.4-*bis*-Acetamidoanthraquinone, cellulose acetate dyed using, 601, 606.  
 1.5-*bis*-Acetamido-anthraquinone,

- cellulose acetate dyed using, 602.
- 4-Acetamido-1-anthraquinonylthiourethane cellulose ether dyed using, 2267.
- Acetamidobenzylcellulose, mfr., 1598.
- 1-Acetamido-4-hydroxyanthraquinone, cellulose acetate dyed using, 606.
- 1-Acetamido-4-B-hydroxyethoxy anthraquinone, cellulose ether dyed with, 142, 2267.
- 1-Acetamido-4-methoxyanthraquinone cellulose acetate dyed using, 606.
- 1-Acetamido-4-methylaminoanthraquinone, cellulose acetate dyed using, 606.
- Acetamidomethylsalicylic acid*, see *Benzacetin*.
- 1-Acetamido-a-naphthaphenazine-4-sulfonic acid, cellulose acetate dyed using, 2247.
- 8-Acetamido-1.2-naphthaquinone-5-sulfonic acid, cellulose acetate dyed using, 2246.
- Acet-o-amidotoluene*, see *Acet-o-toluide*; *o-Acettoluide*.
- Acet-p-amido-toluene*, see *Acet-p-toluide*.
- Acetaminobenzylcellulose, mfr. of, 273, 1599.
- 3-Acetaminobenzyl chloride, cellulose etherified with, 273, 1598.
- 1-Acetamino-4-oxy-anthraquinone, 2319.
- p*-Acetaminophenol, cellulose ether dyed using, 120, 2261.
- Acetanil*, see *Acetanilid*.
- Acetanilid, 1832, 1863, 1907, 1965, 2004, 2019, 2020, 2022, 2026, 2028, 2031.
- , airplane dope containing, 442.
- , amines solvent for, 2008.
- , cellulose ether dyed using, 2289.
- , cellulose ether plastic, 94.
- , cellulose ether solvent, 68, 1841.
- , cellulose nitrate plasticizer, 94.
- , dope, cellulose acetate airplane containing, 460.
- , ethylcellulose solvent, 19.
- , fabric coated using, 2483.
- , lacquer containing, 2395.
- , stabilizer, 1564.
- , starch ether solvent, 1483.
- , stencil sheet made using, 661, 686.
- Acet-o-anisidid*, 1956.
- Acet-p-anisidid*, 2021.
- o*-Acetanisidine, cellulose ether plastifier, 146, 1371.
- p*-*Acet-anisidin*, see *Methacetin*.
- Acetanol, printing, color, with 2327.
- Acetate A, 1312.
- Acetatecellulose*, see *Cellulose acetate*.
- Acetate collodion, 419.
- Acetated aniline, cellulose acetate dyed using, 674.
- Acetated castor oil*, see *Castor oil*, *acetated*.
- Acetated cellulose*, see *Cellulose acetate*.
- Acetated oils, 2056.
- Acetated starch*, see *Starch*, *acetated*.
- Acetated turpentine*, see *Turpentine*, *acetated*.
- Acetate silk*, see *Filament*, *artificial*, *cellulose acetate*.
- Acetate test, cellulose acetate, 651.
- Acetation*, see *Esterification*.
- Acetatrosshaar, 487.
- Aceta types, mfr., 639.
- Acetbenzenesulfamid, 2043.
- Acetethylanilid*, see *Ethylacetanilid*.
- Acetex, 2567.
- Acetic acid, 916, 1714.
- , acetaldehyde for mfr. of, 454, 487, 654, 867.
- , acetic anhydride made using, 605, 735, 737, 802, 826, 1047.
- , acetic anhydride separated from, 1026.
- , acetone made from, 509.
- , acetylene for mfr., 654.
- , *C*-alkylated cresol for extracting, 830.
- , alkylcellulose porosity increased by, 1346.
- , alkylcellulose solvent, 1426.
- , aluminum for mfr., 633.
- , aluminum methylate for mfr., 633, 1031.
- , amines solvent for, 2008.
- , amyl acetate for extracting, 716.
- , analysis, 1027.
- , anhydrous, mfr., 666.
- , aniline for mfr., 654.
- , anisole for extraction of, 1031.
- , association degree of, 857.
- , benzylcellulose insoluble in, 1537.

- Acetic acid, benzylcellulose solvent, 230.  
—, benzylcellulose viscosity reduced by, 1560.  
—, benzyldextrin solvent, 1516.  
—, boiling point of, 569.  
—, butyl acetate for extracting, 829.  
—, C-butylcresol for extracting, 830.  
—, butyric acid separated from, 965.  
—, celluloid solvent, 890.  
—, cellulose acetate and as plastic, 407.  
—, cellulose acetate crinkled by, 500.  
—, cellulose acetate delustred by, 500, 747, 1013.  
—, cellulose acetate dyed in presence of, 510, 749.  
—, cellulose acetate hydrated using, 925.  
—, cellulose acetate luster increased by, 785.  
—, cellulose acetate made more resistant by, 786.  
—, cellulose acetate pile fabric softened by, 608.  
—, cellulose acetate pleating using, 602.  
—, cellulose acetate precipitant, 784, 811.  
—, cellulose acetate printing using, 608, 716.  
—, cellulose acetate relustred by, 604, 623, 636, 723, 943.  
—, cellulose acetate ripened by, 597.  
—, cellulose acetate solvent, 324, 336, 480, 738, 890, 1843, 2075, 2355.  
—, cellulose acetate swelling agent, 501, 728, 1011.  
—, cellulose ether, jelling of, prevented by, 1349.  
—, livering of, prevented by, 1349.  
—, precipitating of, prevented by, 1349.  
—, cellulose ether dyed in presence of, 2223.  
—, cellulose ether fixative, 104.  
—, cellulose ether gelatinant, 2096.  
—, cellulose etherified in presence of, 1435.  
—, cellulose ether purified by, 102.  
—, cellulose ether softener, 2133, 2134, 2150, 2155, 2156, 2336.  
Acetic acid, cellulose ether solvent, 141, 230, 2075.  
—, cellulose ether strengthened by, 2131.  
—, cellulose ether swelled by, 264, 2221.  
—, cellulose ether viscosity reduced by, 162, 300, 1360, 1363.  
—, cellulose glycollic acid coagulated by, 89.  
—, cellulose hydroxyparaffin-monocarboxylic acid coagulated by, 89.  
—, cellulose lactic acid coagulated by, 89.  
—, cellulose nitrate precipitant, 811.  
—, cellulose pretreated with, 409, 593, 634, 644, 650, 773, 865, 929, 953, 958, 987, 1432.  
—, cellulose purified by, 1408, 1409, 1410, 1411, 1413.  
—, cellulose sulfacetates pretreated with, 846.  
—, cellulose sulfonate solvent, 35, 364.  
—, chlorination of, 828, 912.  
—, concentrating, 530, 558, 596, 601, 603, 604, 626, 655, 668, 669, 687, 706, 715, 719, 720, 721, 748, 762, 779, 782, 798, 808, 812, 830, 832, 838, 855, 886, 905, 926, 928, 941, 956, 970, 992, 1005, 1015, 1019, 1026, 1029, 1040, 1045, 1046.  
—, conductivity, 709, 710.  
—, copper acetate for mfr., 633.  
—, copper for mfr., 633.  
—, copper acetals catalyst in mfr., 1031.  
—, copper methylate catalyst in mfr., 1031.  
—, copper oxide for mfr., 633, 1031.  
—, crystallizing, 662.  
—, damask effect produced by, 2340.  
—, decolorizing, 564.  
—, dehydrating, 943, 988, 1022.  
—, delustring with, 2188, 2192, 2344.  
—, detection, 889.  
—, determination in cellulose acetate, 925.  
—, dibutyl benzoate in concentrating, 1040.  
—, dibutyl phthalate in concentrating, 1040.  
—, diethyl benzoate in concentrating, 1040.

- Acetic acid, diethyl phthalate in concentrating, 1040.
- , dihexyl phthalate in concentrating, 1040.
- , dimethyl benzoate in concentrating, 1040.
- , dimethylhydrocellulose solvent, 76.
- , dimethyl phthalate in concentrating, 1040.
- , dispersing agent for, 2214.
- , dissociation of, 800, 903.
- , dissociation constant, 1034.
- , dye dissolved using, 2235.
- , dyestuff affinity increased, 2223.
- , estimation, 889.
- , ethylcellulose, jelling of, prevented by, 1349.
- , —, livering of, prevented by, 1349.
- , —, precipitating of, prevented by, 1349.
- , ethylcellulose solvent, 17, 18, 19, 20, 21, 230, 1423, 1436, 1437, 1457.
- , ethylcellulose viscosity reduced by, 300.
- , ethylidene diacetate made using, 855.
- , ethylsulfuric acid for mfr., 1001.
- , extracting, 605, 798, 850, 1045.
- , film, non-static, made using, 703.
- , film cement containing, 430.
- , flash point, 2060.
- , formamide for mfr. of, 1046.
- , formic acid separated from, 591, 1000.
- , gelatin solvent, 480.
- , gelling prevented by, 2410.
- , glacial, cellulose acetate solvent, 1819.
- , —, cellulose ether solvent, 1841.
- , —, cellulose solvent, 1330.
- , —, ethylcellulose crystalline solvent, 1336.
- , —, ethylcellulose soluble in, 1226.
- , —, ethylcellulose xanthanilide solvent, 1644.
- , —, methylcellulose solubility in, 1307.
- , —, starch triacetate solvent, 739.
- , —, trimethylcellulose solvent, 1315, 1319.
- , —, *see also Acetic acid, concentrated.*
- Acetic acid, glass, laminated, made using, 2596.
- , guanin purified by, 2617.
- , guanin insoluble in, 2614.
- , hollow filaments produced using, 2365.
- , ketene from, 802.
- , lacquer containing, 2392.
- , lead oxide for mfr., 633, 1031.
- , livering in cellulose ether prevented by, 162.
- , livering prevented by, 2410.
- , lustring with, 2200.
- , mfr. of, 275, 396, 443, 447, 462, 473, 487, 491, 492, 515, 516, 518, 535, 540, 541, 560, 563, 575, 578, 605, 620, 628, 629, 633, 650, 652, 654, 662, 678, 701, 705, 715, 726, 736, 771, 772, 781, 793, 801, 802, 803, 834, 835, 851, 853, 858, 863, 865, 866, 869, 876, 894, 903, 904, 905, 912, 916, 919, 926, 939, 957, 973, 995, 996, 998, 1001, 1012, 1016, 1032, 1033, 1045.
- , methylcellulose, jelling of, prevented by, 1349.
- , —, livering of, prevented by, 1349.
- , —, precipitating of, prevented by, 1349.
- , methylcellulose solvent, 145.
- , methyl formate for mfr., 633.
- , methylin solvent, 276.
- , mordant for cellulose acetate, 809.
- , mordant in cellulose ether dyeing, 104.
- ,  $\alpha$ -naphtholmethyl ether for extraction of, 1031.
- , pattern effects on cellulose acetate by, 774.
- , phenetol for extraction of, 1031.
- , phenol ether for extraction of, 1031.
- , piping, 1047.
- , potassium acetate for mfr., 633.
- , potassium methoxide for mfr., 633.
- , printing, reserve, color, using, 2326.
- , printing paste containing, 2325, 2328.
- , purifying, 564, 566, 653, 700, 989, 1047.
- , recovery, 545, 581, 633, 644, 649, 679, 719, 724, 729, 730, 782, 795, 883, 904, 923, 1025, 1026, 1041.

- Acetic acid, recovery, Suida process, 1047.  
—, rectifying, 720.  
—, —, continuous, 685.  
—, relustring cellulose acetate with, 723.  
—, relustring with, 2198.  
—, rice hulls for mfr., 482.  
—, safe-ironing temperature raised by, 2361.  
—, sawdust in mfr., 869.  
—, scoop increased by, 2202.  
—, scoop produced by, 593.  
—, separating, 858.  
—, sheet flexible, made using, 468.  
—, soda acetate for mfr., 633.  
—, sodium benzenesulfonate for mfr., 633.  
—, sodium methoxide for mfr., 633.  
—, solvent uses, 1891.  
—, sulfonic acid for mfr., 633.  
—, starch ether solvent, 1483, 1484.  
—, sucrose, benzylated, solvent, 1517.  
—, sulfuric acid action on, 319.  
—, synthesis, 995.  
—, tin methylate for mfr., 633, 1031.  
—, tin oxide for mfr., 633, 1031.  
—, toluene for extracting, 716.  
—, vapor, decomposition of, 601.  
—, vapor composition, 569.  
—, vinyl acetate made using, 855.  
—, viscosity, 684.  
—, xylene for extracting, 716.  
—, zinc for mfr., 633.  
—, zinc acetals catalyst in mfr., 1031.  
—, zinc acetate for mfr., 633.  
—, zinc methylate for mfr., 633.  
—, zinc oxide for mfr., 633, 1031.  
—, see also *Pyroligneous acid*.  
Acetic acid-acetic anhydride-water, equilibrium in system, 996.  
*Acetic acid amide*, see *Acetamide*.  
Acetic anhydride, acetic acid separated from, 1026.  
—, alcoholysis of, 855.  
—, analysis, 616.  
—, benzylcellulose viscosity reduced by, 1560.  
—, cellulose acetate solvent, 324.  
—, cellulose pretreated with, 929.  
—, cellulose purified by, 1409.  
—, cellulose solvent, 1330.  
—, chloroform solvent for, 1813.  
—, cork esterified using, 668.  
Acetic anhydride, esterifying with, 1037.  
—, ethylcellulose, crystalline, solvent, 1336.  
—, ethylidene diacetate mfr., 916, 1040.  
—, guanin insoluble in, 2614.  
—, hydration of, 680.  
—, hydrolysis of, 855.  
—, —, diminishing, 986.  
—, mfr. of, 441, 454, 456, 497, 506, 508, 522, 534, 562, 565, 577, 578, 581, 585, 596, 605, 625, 631, 647, 654, 655, 662, 667, 680, 690, 705, 708, 729, 735, 737, 753, 754, 756, 768, 770, 772, 800, 802, 826, 833, 843, 844, 849, 863, 864, 868, 877, 895, 928, 945, 956, 975, 977, 997, 1011, 1047.  
—, miscibility relations, 677.  
—, properties, 677.  
—, purifying, 581.  
—, purity, determining, 900.  
—, recovery, 883.  
—, —, carbon tetrachloride for, 350.  
—, sulfur containing, purifying, 609.  
—, sulfur dioxide liquid in mfr. of, 1018.  
—, thermal decomposition of, 4, 567.  
—, titrating, 757.  
—, vinyl acetate for mfr. of, 626.  
—, water reaction with, 691.  
—, zinc chloride as catalyst in mfr., 707.  
*Acetic cellulose*, see *Cellulose acetate*.  
Acetic esters, 1912.  
*Acetic ether*, see *Ethyl acetate*.  
*Acetic oxide*, see *Acetic anhydride*.  
Acetic-propionic anhydride, mfr., 382.  
Acetin, 525, 568, 1841, 1889, 1923, 1924, 1925, 1967.  
—, acetic anhydride solvent, 768.  
—, cellulose acetate dyed in presence of, 361.  
—, cellulose acetate plastifier, 383, 550.  
—, cellulose acetate solvent, 400, 791.  
—, fabric coated using, 2483, 2485.  
—, film containing, 531.  
—, glass, laminated, made using, 994, 2592.  
—, glass sheets united using, 1570.

- Acetin, lacquer containing, 2391.  
—, mfr. of, 1924.  
—, record, phonograph, made with, 110, 2606.  
—, relustring with, 216.  
—, uses, 1924.  
—, *see also Glyceryl triacetate; Triacetin*.  
Acetynylmethylethyl ether, 1873.  
1-Acetmethylamido-4-methoxyanthraquinone, cellulose acetate dyed using, 606.  
*Acetmethylanilide, see Exalgin*.  
Acetnaphthalid, 1863.  
—, cellulose acetate softener, 450.  
—, lacquer containing, 2395.  
Acet-*b*-naphthalid, 2021.  
*Acet- $\alpha$ -naphthylamine, see  $\alpha$ -Acet-naphthalid*.  
Aceto, microscopic examination, 848.  
Acetoacetic acid, 1929.  
—, mfr. of, 560.  
Acetoacetic acid anilid, cellulose acetate dyed using, 722.  
Acetoacetic acid 2-anisidine sulfonic acid, lacquer, colored, using, 2399.  
Acetoacetic arylamide, cellulose ester dyed using, 281.  
—, cellulose ether dyed using, 281.  
*Acetoacetic ester, see Ethyl acetoacetate*.  
*Acetoacetic ether, see Ethyl acetoacetate*.  
Aceto-acetic sulfo-*o*-anisidine, cellulose ester dyed using, 281.  
—, cellulose ether dyed using, 281.  
Acetoacetylaminoozobenzene, cellulose ether dyed with, 138.  
Acetoacetyl-1,4-diamino-2-methylanthraquinone, cellulose ether dyed with, 138.  
Acetoacetyl-2,4-dinitro-4'-aminodiphenylamine, cellulose ether dyed with, 138.  
*Acetobacter xylinum*, cellulose formed by, 1109.  
Acetobromcellobiose, 1024, 1313.  
—, mfr. of, 692, 1024.  
—, properties, 1024.  
*a*-Acetobromgalactose, 1505.  
Acetobromglucose, 1313.  
—, mfr. of, 441, 692.  
*b*-Acetobromglucose, mfr., 649.  
Acetobrominulin, mfr. of, 441.  
Acetobrommaltose, mfr. of, 441.  
Aceto-*a*-bromstearate, 1740.  
*Acetocellulose, see Cellulose acetate*.  
*Acetocellulose sulfuric acid ester, see Cellulose acetate, sulfuric acid esters*.  
Acetochlorglucose, mfr. of, 441.  
*b*-Acetochlorglucose, mfr., 649.  
Acetochlorhydrin, 1844, 1923.  
—, cellulose acetate plastifier, 385.  
—, cellulose acetate solvent, 471, 1819, 1843.  
Acetochlorhydrose, 1937.  
Acetochlormaltose, mfr. of, 441.  
*Acetocinnamone, see Benzylidene acetone*.  
Aceto-1,6-dibromglucose, 1163.  
Acetodichlorhydrin, 1844, 1931, 2026.  
—, cellulose acetate solvent, 406, 471, 1818, 1819, 1843.  
—, cellulose ether solvent, 1841.  
—, triphenyl phosphate and as solvent, 1902.  
Acetoglycollic esters, 1941.  
Acetoid, 2567.  
Acetoin benzoate, 1934.  
Acetoin ketobutyrate, 1934.  
*Aceto- $p$ -iodoanilide, see Iodoacetanilid*.  
Acetiodomaltose, 1500.  
Acetol, 890, 1832, 1934, 2567.  
—, cellulose ether coagulation prevented by, 288.  
—, methylcellulose coagulant, 1460.  
—, methylcellulose coagulation prevented by, 288.  
—, *see also Acetylmethylalcohol*.  
Acetol acetate, 1832, 1934.  
Acetolethyl ether, 1870.  
Acetol-glycerol, 1886, 1894, 1995.  
Acetol laurate, 1832, 1934.  
Acetol levulinate, 1832.  
Acetol ricinoleate, 1934.  
Acetol salicylate, 1832.  
*Acetol salicylic ether, see Salacetol*.  
Acetolysis, 379, 1110, 1368.  
Acetomethylgalactose, 1505.  
*Acetonal, see Aluminum-sodium acetate*.  
Acetone, 583, 1875, 1878, 1994, 2205.  
—, acetating in presence of, 332.  
—, acetic anhydride made using, 1047.  
—, airplane fabric coated using, 485.  
—, alkylcellulose porosity increased by, 1346.

- Acetone, alkylcellulose viscosity reduced by, 1352.
- , amines solvent for, 2008.
  - , ammonium magnesium phosphate solvent, 479.
  - , ammonium manganese arsenate solvent, 479.
  - , ammonium manganese phosphate solvent, 479.
  - , ammonium phosphate solvent, 479.
  - , anhydride made from, 997.
  - , aqueous, ethylcellulose solvent, 18.
  - , benzene and, as cellulose ether solvent, 1802.
  - , benzylcellulose solvent, 248, 278, 1345, 1555, 1587.
  - , benzylcellulose viscosity reduced by, 224.
  - , b. pt. methyl alcohol with, 1831.
  - , butylbenzylcellulose solvent, 278, 1345.
  - , butylcellulose solvent, 278, 1345.
  - , cellulose acetate solubility, 1345.
  - , cellulose acetate delustred by, 616.
  - , cellulose acetate lacquer containing, 478.
  - , cellulose acetate precipitating bath component, 817.
  - , cellulose acetate non-solvent, 324.
  - , cellulose acetate peptized, 614.
  - , cellulose acetate pile fabric softened by, 608.
  - , cellulose acetate pleating using, 602.
  - , cellulose acetate solvent, 336, 445, 484, 566, 582, 1819, 1843, 2075, 2435.
  - , cellulose acetate solvent mixture containing, 574.
  - , cellulose acetate spinning solution containing, 775.
  - , cellulose acetate swelling by, 715, 810, 960, 1043.
  - , cellulose acetobutyrate, solubility, 1345.
  - , cellulose acetobutyrolaurate, solubility, 1345.
  - , cellulose acetolaurate, solubility, 1345.
  - , cellulose acetopropionate, solubility, 1345.
  - , cellulose butyrolaurate, solubility, 1345.
- Acetone, cellulose capronate, solubility, 1345.
- , cellulose ester delustred by, 221.
  - , cellulose esterified in presence of, 865.
  - , cellulose ester softener, 2220.
  - , cellulose ether, livering of prevented by, 1349.
  - , cellulose ether delustred by 221.
  - , cellulose ether dyed using, 2237.
  - , cellulose ether non-solvent, 1452.
  - , cellulose ether softener, 2153, 2156, 2183, 2220, 2336, 2349.
  - , cellulose ether solvent, 8, 186, 1447, 1841, 2075, 2102, 2351, 2356, 2375.
  - , cellulose ether solvent of benzene and, 54.
  - , cellulose ether swelling agent, 110, 253, 264, 287, 321.
  - , cellulose formate solubility, 1345.
  - , cellulose laurate solubility, 1345.
  - , cellulose naphthenate solubility, 1345.
  - , cellulose naphthenate-laurate solubility, 1345.
  - , cellulose naphthenate-oleate-laurate solubility, 1345.
  - , cellulose pelargonate solubility, 1345.
  - , cellulose pretreated with, 409, 655.
  - , cellulose propionate solubility, 1345.
  - , cellulose stearate solubility, 1345.
  - , cellulose valerate solubility, 1345.
  - , cigarette tip coated using, 788.
  - , cigarette tip containing, 2432.
  - , coating compounds containing, 1007.
  - , damask effect produced by, 2340.
  - , delustring with, 2188, 2189.
  - , dilution ratio, 1786, 1787.
  - , dye stripped using, 2320.
  - , ethylbenzylcellulose solvent, 278, 1345.
  - , ethylbutylcellulose solvent, 278, 1345.
  - , ethylcellulose lacquer containing, 2408.
  - , ethylcellulose solvent, 17, 19, 20, 21, 134, 278, 1345, 1349, 1436, 1437, 1457, 2356.

- Acetone, ethylcellulose viscosity reduced by, 224, 1352.  
—, ethylcellulose xanthanilid solvent, 1644.  
—, fiber coated with cellulose acetate and, 649.  
—, filament, artificial, made using, 1001.  
—, —, hollow, spun, using, 2367, 2370.  
—, film made using, 2515.  
—, film cement containing, 430.  
—, flash point, 2060.  
—, floor covering made using, 2437.  
—, glass, laminated, made using, 655.  
—, —, window, made using, 2553.  
—, hollow filaments produced using, 2365.  
—, hydrocellulose acetate solvent, 353.  
—, hydroxyethylcellulose acetate soluble in, 1614.  
—, ink containing, 2475.  
—, jointing material made using, 2439.  
—, lacquer containing, 1572, 2392, 2400, 2406, 2419.  
—, mfr. of, 462, 509, 869, 1012, 1068, 1881.  
—, methylcellulose solvent, 134, 278, 1345, 2356.  
—, methylcellulose viscosity reduced by, 224, 1352.  
—, methyl starch solvent, 1473.  
—, methylin solvent, 277.  
—, monograph on, 572.  
—, osmotic pressure measurements of cellulose acetate in, 855.  
—, physical constants, 1792.  
—, plastic made containing, 2563.  
—, polish, shoe, made using, 689.  
—, propylbenzylcellulose solvent, 278, 1345.  
—, propylcellulose solvent, 278, 1345.  
—, purifying, 524.  
—, record, phonograph, made using, 990.  
—, recovery, 803, 818, 947.  
—, sheet, flexible, made using, 468.  
—, solvent power of, 595.  
—, solvent properties of, 570.  
—, starch ether solvent, 1483.  
—, stencil sheet containing, 686, 763, 2489, 2491.  
—, substitute for, 535.  
Acetone, tube made using, 2439.  
—, uses, 1879, 1880.  
—, vapor, decomposition of, 601.  
—, viscosity of, 1357.  
—, viscosity cellulose acetate in, 811, 840.  
—, viscosity cellulose acetate dissolved in, 595.  
—, viscosity cellulose esters in, 926.  
—, viscosity cellulose nitrate in, 811.  
—, wood ether solvent, 290.  
—, wood oil containing, 296.  
Acetone-acetaldehyde, cellulose ether solvent, 213.  
—, filament, hollow, made using, 213.  
Acetone-acetaldehyde-alcohol, cellulose solvent, 213.  
—, filament, hollow, made using, 213.  
Acetone alcohol, cellulose acetate solvent, 521.  
Acetone-alcohol-benzene, solvent power of, 595.  
—, viscosity cellulose acetate dissolved in, 595.  
Acetone-benzene, benzylcellulose solvent, 1545, 1553.  
—, solvent power of, 595.  
—, viscosity cellulose acetate dissolved in, 595.  
Acetone chloride, 1820.  
*Acetone-chloroform, see Chlore-tone.*  
Acetone cinchonine, plastic containing, 549.  
*Acetone diethyl sulfone, see Sulfonal.*  
Acetone-ethyl alcohol, solvent power of, 595.  
—, viscosity cellulose acetate dissolved in, 595.  
Acetone-furfural, benzylcellulose combined with, 174, 1364.  
—, cellulose ether lacquer containing, 2407.  
—, ethylcellulose combined with, 174, 1364.  
—, methylcellulose combined with, 174, 1364.  
Acetoneglycerol, 1857, 1858, 1886, 1894.  
—, cellulose ether plasticizer, 97.  
—, wetting out agent, 1236.  
Acetonemethylrhamsoside, 1498.  
Acetone monocarboxylic acid, 1929.



- Acetone oil, 1878, 1883, 1960, 2027.  
 —, acetic acid extracted using, 605.  
 —, benzylcellulose solvent, 1555.  
 —, film made using, 2524.  
 —, glass, laminated, made using, 2586.  
 —, heavy, 1884.  
 —, lacquer containing, 2393.  
 —, light, 1882, 1884.  
 —, propionic acid extracted using, 605.  
 —, wetting out agents, 1235.  
*Acetone oxime, see Acetoxime.*  
 Acetone phenol, 1857, 2406.  
 Acetone recovery, 2125.  
 Acetone-sugar, 301.  
*Acetonesulfite, see Acetone disulfite.*  
 Acetone-water, cellulose ether solvent, 213.  
 —, filament, hollow, made using, 213.  
*Acetonic acid, see Acid, iso-oxybutyric; Hydroxy-isobutyric acid (a).*  
 Acetonine, 826.  
 Acetonine dyes, 2320.  
 Acetonitril, benzylcellulose non-solvent, 230.  
 —, celluloid solvent, 890.  
 —, cellulose acetate solvent, 890, 1785.  
 —, cellulose ether non-solvent, 230.  
 —, ethylcellulose non-solvent, 230.  
 —, mfr. of, 1012.  
*Acetonozone, see Acetoxime.*  
 Acetonyl acetone, 1882.  
 Acetophenone, 1053, 1863, 1878, 1888, 1889, 1890, 1913, 1986.  
 —, benzyl chloride in mfr., 1297.  
 —, cellulose acetate plastifier, 340, 398.  
 —, cellulose ether solvent, 213.  
 —, filament, hollow, made using, 213.  
 —, hollow filaments produced using, 2365.  
 —, osmotic pressure measurements of cellulose acetate in, 855.  
 —, softener, 2216.  
 —, *see also Hypnone; Methyl-phenyl ketone.*  
 Acetophenylene diamine, amines solvent for, 2008.  
*p*-Acetophenylene diamine, amines solvent for, 2008.  
*Acetosol, see Acetylsalicylic acid.*  
 Acetose, 590.  
 Acetosilk black, cellulose ether dyed using, 2301.  
*Acetosol, see Tetrachlorethane.*  
 Acetotartrylactate, 1700.  
*p*-Acetotoluide, amines solvent for, 2008.  
 Aceto-*o*-toluidid, 2021.  
 Acetoxime, 1887, 1888.  
 —, cellulose ester solvent, 267.  
 —, cellulose ether solvent, 267.  
*b*-Acetoxyethylbutyl citrate, 1952.  
*b*-Acetoxyethylbutyl phenylmalonate, 1952.  
*b*-Acetoxyethylbutyl phthalate, 1952.  
*b*-Acetoxyethylbutyl succinate, 1952.  
*b*-Acetoxyethylbutyl succinylsuccinate, 1952.  
*b*-Acetoxyethylbutyl tartrate, 1952.  
*b*-Acetoxyethylbutyl trimesate, 1952.  
 Acet-*o*-phenetidid, 1956.  
*p*-Acetphenetidid, 2015, 2021.  
 Acettoluid, 2003, 2021.  
 —, stabilizer, 1564.  
*o*-Acettoluid, 2015.  
*p*-Acettoluid, 2015.  
 Acet-*m*-xylyl, 2021.  
 Acet-*o*-xylyl, 2021.  
 Acetyl, determination, 552.  
 Acetylacetic acid, 1929.  
 Acetylacetic ether mfr., 429.  
 Acetylacetone, 1882, 1988.  
 —, cellulose acetate solvent, 453, 521.  
 —, cellulose ether solvent, 53, 213, 2088, 2089.  
 —, filament, hollow, made using, 213, 2365.  
*Acetylamidobenzene, see Acetanilid.*  
 Acetylamidophenylisoamyl carbonate, 1907.  
 Acetylamidophenylisobutyl carbonate, 1907.  
 Acetylamidophenylethyl carbonate, 1907.  
 Acetylamidophenylmethyl carbonate, 1907.  
*Acetyl-p-amidophenylsalicylate, see Salophen.*  
 5-Acetyl-amino-2-amino-4-methoxytoluene, cellulose acetate dyed using, 2272.  
 1-Acetylaminoanthraquinone, 2318.  
 —, benzylcellulose dyed using, 1587.  
 —, cellulose ether dyed using, 2266.

- 1-Acetylaminanthraquinone-4-isothiocyanate, cellulose acetate dyed using, 777.
- , cellulose ether dyed using, 2287.
- 4'-Acetyl-amino-2,4-dinitrodiphenylamine, cellulose acetate dyed with, 543.
- Acetyl-amino xylenol, cellulose ester dyed using, 245.
- , cellulose ether dyed using, 245.
- Acetylamylaniline, 2018.
- Acetylamyl tartrate, 1944.
- Acetylanisidine, 2041.
- , cellulose ester plasticizer, 270.
- , cellulose ether plastifier, 174, 270.
- , inflammability of cellulose ether reduced by, 174.
- Acetyl-o-anisidine, 2041.
- Acetylated cellulose, *see Cellulose acetate*.
- Acetylated starch, *see Starch acetate*.
- Acetylation, velocity of, 343.
- , *see also Acetation*.
- Acetylbenzene, *see Acetophenone*.
- Acetylbenzidine, delustring with, 2185.
- Acetylbenzoylaconine, *see Aconitine*.
- Acetylbenzoyl aniline, 1953.
- Acetylbenzoyl-o-toluidine, 2017.
- , cellulose acetate plastifier, 383.
- Acetylbiose, 317.
- Acetylbromaniline, 2014.
- , benzylcellulose treated with, 1563.
- , cellulose acetate plasticizer, 292.
- , cellulose propionate plasticizer, 292.
- , ethylcellulose plasticizer, 292.
- Acetylbromcellulose, 591.
- Acetyl-4-bromomethyl acetanilid, benzylcellulose treated with, 1563.
- Acetylbromglucose, 73, 591.
- Acetyl bromide, 71, 72, 411, 549, 1111, 1368.
- , cellulose acetate acetylyzed using, 691.
- , cellulose acetylyzed using, 691.
- , cresol with as plastic, 561.
- , formaldehyde with as plastic, 561.
- , tar-oil with as plastic, 561.
- , wood solvent, 591.
- Acetylbrominulin, 1159.
- Acetylbrommaltose, mfr., 550.
- Acetyl-4-brom-methylanilid, 2020.
- , benzylcellulose and, 1574.
- , cellulose ether inflammability reduced by, 179.
- , cellulose ether plasticizer, 227.
- , fire-retardant, 1374.
- , inflammability cellulose esters reduced by, 752.
- Acetylbutylaniline, 2018.
- Acetylbutyl tartrate, 1944.
- Acetylcarbinol cellulose acetate solvent, 521.
- , cellulose ether solvent, 213, 2088, 2089.
- , filament, hollow, made using, 213, 2365.
- Acetyl carbinol, *see Acetol*.
- Acetylcellan, mfr., 800.
- Acetylcellulose, *see Cellulose acetate*.
- Acetylcellulose-chlorhydrin ether, *see Chlorhydrincellulose acetate*.
- Acetylchloraniline, 2014, 2017.
- , benzylcellulose treated with, 1563.
- , cellulose acetate plasticizer, 292.
- , cellulose ether plastifier, 174.
- , cellulose propionate plastifier, 292.
- , ethylcellulose plasticizer, 292.
- , inflammability of cellulose ether reduced by, 174.
- Acetyl chloride, 4, 312, 323, 324, 325, 327, 334, 338, 340, 349, 382, 433, 454, 534, 549, 1161, 1739, 2624.
- , acetic anhydride made using, 534, 1049.
- , benzylcellulose viscosity reduced by, 1560.
- , cellulose acetate made using, 667.
- , cellulose esterified using, 278.
- , cellulose pretreated with, 259.
- , cellulose purified by, 1409.
- , mfr., 1011.
- , thioacetic acid made using, 509.
- Acetyl 2,4-dibromanilid, 2020.
- , benzylcellulose and, 1574.
- , benzylcellulose treated with, 1563.
- , cellulose esters inflammability reduced by, 752.
- , cellulose ether inflammability reduced by 179.
- , cellulose ether plasticizer, 227.
- Acetyl 3,4-dibromanilid, 2020.

- Acetyl 3,4-dibromanilid, benzylcellulose and, 1574.  
—, benzylcellulose treated with, 1563.  
—, cellulose esters inflammability reduced by, 752.  
—, cellulose ether inflammability reduced by, 179.  
—, cellulose ether plasticizer, 227.  
Acetyldichlorohexylamine, 2006.  
Acetyldicyclohexylamine, 2042.  
Acetyldicyclohexylamine, cellulose acetate plasticizer, 408, 427, 481, 494.  
Acetyldiphenylamine, 1872, 2014, 2016.  
Acetylene, 1922.  
—, acetaldehyde made from, 447, 454, 481, 482, 496, 505, 519, 568, 617, 781, 1002, 1034.  
—, acetic acid made using, 654.  
—, amines solvent for, 2008.  
—, chlorinating, 545.  
—, ethyl alcohol as solvent for, 625.  
—, ethylidene diacetate made using, 855.  
—, oxidation of, 678.  
—, phenol as solvent for, 625.  
—, tar oils from, 46.  
—, vinyl acetate made using, 855.  
Acetylene acetone, 1769.  
—, ethylcellulose xanthanilide solvent, 1644.  
*Acetylene carbamide, see Acetylene urea.*  
Acetylene dichloride, 1384.  
—, cellulose acetate solvent, 1819.  
—, cellulose ether solvent, 1841, 2070.  
—, ethylcellulose solvent, 19.  
—, starch ether solvent, 1483.  
—, *see also sym-Dichlorethylene.*  
Acetylene dichloride-alcohol, ethylcellulose xanthanilide solvent, 1644.  
Acetylene pentachloride, cellulose ether solvent, 1841.  
Acetylene tetrabromide, amines solvent for, 2008.  
—, *see also Tetrabromethane.*  
Acetylene tetrachloride, 2026, 2081.  
—, cellulose acetate solvent, 1819, 1843.  
—, cellulose ether solvent, 1841.  
—, *see also Tetrachlorethane.*  
Acetylene trichloride, cellulose ether solvent, 1841.  
Acetyl-*p*-ethoxyphenyl urethane, 1955.  
—, *see also Thermodin.*  
Acetylethylamidophenylethyl carbonate, 1907.  
Acetylethylamidophenylmethyl carbonate, 1907.  
Acetylethylaniline, 2014, 2018.  
Acetyl-ethyl dextrin, 1368.  
*Acetyl-ethyl ketone, see Methyl-ethyl ketone.*  
*Acetyl glucoses, see Glucose acetates.*  
*Acetylhydrocellulose, see Hydrocellulose acetate.*  
Acetyl iodide, catalyst in cellulose acetating, 440.  
Acetyl laurin, cellulose ester softener, 698.  
Acetyl lignin, formaldehyde from, 794.  
—, *see also Lignin acetate.*  
Acetylmethylacetanilid, 1944.  
*Acetylmethyl alcohol, see Acetol.*  
Acetylmethylamidophenylethyl carbonate, 1907.  
Acetylmethylamidophenylmethyl carbonate, 1907.  
Acetylmethylanilid, cellulose acetate plasticizer, 455.  
—, phonograph record made using, 455.  
—, plastic made containing, 2563.  
Acetylmethylaniline, 1841, 1953, 2014, 2018, 2023.  
—, cellulose acetate plastic made using, 526.  
Acetylmonochloraniline, cellulose ether plastifier, 174.  
—, inflammability of cellulose ether reduced by, 174.  
Acetyl nitrate, 888.  
*Acetyl oxide, see Acetic anhydride.*  
Acetyl-*p*-oxyphenyl urethane, 1955.  
Acetyl-palmitin, cellulose ester softener, 698.  
Acetyl phenetidid, 2023, 2041.  
—, cellulose ester plasticizer, 270.  
—, cellulose ether plastifier, 174, 270.  
—, inflammability of cellulose ether reduced by, 174.  
Acetyl-*p*-phenetidid, 2024.  
—, cellulose ether solvent, 54.  
*Acetylphenylenediamine, see p-Aminno-acetanilid.*  
Acetyl-*p*-phenylene-diamine, cellu-

- lose ether dyed with *p*-cresol and, 114.
- Acetylphenylglycine, 1893.
- , cellulose ester solvent, 267.
- , cellulose ether solvent, 267.
- Acetylphenylnaphthylamine, 2015.
- Acetylphenyltolylamine, 2014.
- B*-Acetylpropionic acid, *see* *Levulinic acid*.
- b*-Acetylpropionic ester, 1934.
- Acetylpropylaniline, 2018.
- Acetylquinic acid, 320.
- Acetyl-saccharose*, *see* *Saccharose acetate*.
- Acetylsalicylic acid, amines solvent for, 2008.
- , mfr., 1740.
- , *see also* *Aspirin*.
- Acetyl starch, yeast plastic with, 565.
- Acetyl sugar, yeast plastic with, 565.
- Acetylsulfuric acid, 382, 888, 998.
- , catalyst in cellulose acetating, 427.
- , *see also* *Sulfacetic acid*.
- Acetyltetrachloronitranilid, 2022.
- Acet-*p*-toluenesulfamid, 2043.
- Acetyltribenzoylglucose bromhydrin, 737.
- 6-Acetyl-2.3.4-tribenzoyl-*b*-methyl glucoside, 737.
- Acetyl-2.4.5-tribromanilid, 2020.
- , benzylcellulose and, 1563, 1574.
- , cellulose ether inflammability reduced by, 179.
- , cellulose ether plasticizer, 227.
- , inflammability cellulose esters reduced by, 752.
- Acetyl-2.4.6-tribromanilid, 2020.
- , benzylcellulose and, 1563, 1574.
- , cellulose ether inflammability reduced by, 179.
- , cellulose ether plasticizer, 227.
- , inflammability cellulose esters reduced by, 752.
- Acetyl-2.4.6-tribrom-methylanilid, 2020.
- , benzylcellulose treated with, 1563.
- , cellulose ether inflammability reduced by, 179.
- , cellulose ether plasticizer, 227.
- , fire-retardant, 1374.
- , inflammability cellulose esters reduced by, 752.
- Acetyl-1.3.6-tribrom-2-naphthalide, benzylcellulose and, 1574.
- Acetyl-1.3.6-tribrom-2-naphthalide, cellulose ether plasticizer, 227.
- Acetyltrichloranilid, 2022.
- Acetyltrichloronitranilid, 2022.
- Acetyltrichlor-*o*-phenylenediamine, 2019.
- Acetyltriethylcitric ether, 1952.
- Acetylurea, 2030.
- , softener, 2215.
- Acetylsal*, *see* *Acetylsalicylic acid*.
- Achilleic acid*, *see* *Aconitic acid*.
- Acid*, mixed, *see* *Mixed acid*.
- , spent, *see* *Spent acid*.
- , waste, *see* *Spent acid*.
- Acidamides, 2634.
- Acid ammonium purpurate*, *see* *Murexid*.
- Acid anhydride, mfr., 1029, 1033.
- Acid Blue, 1084.
- Acid-cellulose, etherification of, 12.
- , ethylation of, 87.
- , mfr. of, 87.
- Acid Green G., cellulose ether dye, 2231.
- Acidol*, *see* *Betaine hydrochloride*.
- Acid Red 3B cellulose ether dye, 2231.
- Acids, cellulose pretreatment with, 1406.
- , fatty, dehydrating, methyl butyrate for, 626.
- , mfr., 788.
- , *see also* *Liquids*, *corrosive*.
- Acid violet, 2320.
- Acid wringer*, *see* *Centrifugal*.
- Acidylaminoanthraquinone, cellulose acetate dyed using, 606.
- , cellulose ether dyed using, 2266.
- Acidylchloramides, cellulose ether dyed using, 2284.
- Acidylsulfuric acid, 382.
- Acoin C*, *see* *Di-p-anisylmono-p-phenetylguanidin-chlorhydrate*.
- Aconitine, 2446.
- Acopyrin*, *see* *Acetopyrin*.
- Acridine, 1753, 2031, 2033.
- Acridine Orange, cellulose ether dyed using, 2258.
- Acrolein-urea condensate, 2054.
- Acrylic acid, cellulose acetate hydrolyzed in presence of, 1056.
- Acrylic acid ester, cellulose acetate solvent, 876.
- , filament, artificial, made using, 820.
- , rubber solvent, 876.

- Acrylic aldehyde*, see *Acrolein*.  
*Acrylic anhydride*, cellulose acetate hydrolyzed in presence of, 1056.  
*Acrylic esters*, 1953.  
*Acrylonitrile*, 1093.  
*Actionometer*, uranyl sulfate-oxalic acid, 601.  
*Activator*, see *Catalyst and Promotor*.  
*Activin*, 645.  
*Actol*, see *Silver lactate*.  
*Acton*, see *Ethyl orthoformate*.  
*Actylol*, see *Ethyl lactate*.  
*Acylaminoanthraquinone*, discharge effect produced by, 219.  
8-Acylamino-1.2-naphthalquinone-4-sulfonic acid, cellulose acetate dyed using, 2246.  
8-Acylamino-1.2-naphthalquinone-5-sulfonic acid, cellulose acetate dyed using, 2246.  
*Acyloxyfatty acid esters*, cellulose nitrate plastifier, 508.  
*Adhesive*, cellulose ether, 2598.  
—, —, mfr. of, 259.  
—, cellulose phenylethylthiourethane for, 1643.  
—, diphenylolpropane-acetone condensate as, 260.  
—, diphenylolpropane-formaldehyde condensate as, 260.  
—, phenolaldehyde condensate as, 260.  
—, wood, cellulose acetate for, 1043.  
*Adipic acid*, 1677, 1984.  
—, hydroxyalkyl ester of, 194.  
*Adipic acid esters*, cellulose ether solvent, 47.  
*Adipic ester*, 1236, 1953, 1991.  
—, benzylcellulose plastic with, 232.  
—, ethylcellulose plastic with, 232.  
*Adipinic acid*, see *Adipic acid*.  
*Adipin-ketone*, see *Cyclopentanone*.  
*Adonin*, see *Adonidin*.  
*Adonite*, 1874.  
*Adonitediformal*, 1857, 1886.  
*Adonitetriformal*, 1894.  
*Adrenalon*, see *Methylaminoacetylpyrocatechin*.  
*Adronal*, see *Cyclohexanol*.  
*Adronal acetate*, see *Cyclohexanyl acetate*.  
*Adronol*, see *Cyclohexanol*.  
*Adronol acetate*, see *Cyclohexanyl acetate*.  
*Adurol*, see *Bromchlorhydrochinone*.  
*Aeronautics*, cellulose acetate in, 523.  
—, see also *Aviation*; *Aircraft*; *Balloon*.  
*Aeroplane*, see *Airplane*.  
*Aesculin*, 2450.  
—, sunburn protecting against by, 2541.  
*Aethacol*, see *Pyrocatechinethylether*.  
*Aethrol*, see *Dericin oil*.  
*Aethylatine*, see *Gelatin*, formaldehyde treated.  
*Agar-agar*, 1094, 2057.  
—, amines solvent for, 2008.  
—, coconut fatty acid ester of, mfr., 790.  
—, delustring with, 2186.  
—, esters of, 1094.  
—, film containing, 486.  
—, photographic film containing, 370.  
*Agar-agar-coconut oil ester*, mfr. of, 200.  
*Agathane*, see *Salicylic aldehyde-as-methylphenylhydrazone*.  
*Agent A E P*, 2034.  
—, cellulose acetate solvent, 699.  
*Agent AHN*, see *Acetophenone*.  
*Agent P O*, 2034.  
*Agglutinants*, see *Adhesives*.  
*Agnolin*, see *Lanolin*.  
*Air*, methylcellulose coagulated by, 1460.  
*Aircraft*, cellulose acetate in, 41, 476.  
—, cellulose acetate in covering, 368.  
—, cellulose ester used in, 476.  
—, covering, cellulose acetate for, 387.  
—, —, gas-retaining material for, 203.  
—, fireproofing, cellulose acetate for, 1690.  
—, see also *Aeronautics*; *Airplane*; *Aviation*; *Balloons*.  
*Airoform*, see *Bismuthoxyiodogallate*.  
*Airplane*, coating for, testing, 537.  
—, dope for, 58.  
—, —, acetone in mfr., 485.  
—, —, benzene in mfr., 485.  
—, —, benzyl alcohol in mfr., 485.  
—, —, borated benzol in mfr., 485.  
—, —, cellulose acetate in mfr., 485.  
—, —, cellulose ether for, 58.

- Airplane, fabric, cellulose lacquer for, 489.  
 —, —, ethylcellulose for coating, 215.  
 —, lacquer, cellulose acetate in mfr. of, 520, 541.  
 —, —, dibutyl tartrate for mfr., 541.  
 —, —, mfr., 519.  
 —, —, nigrosin in mfr. of, 520.  
 —, —, stannic oxide in mfr. of, 520.  
 —, —, triphenyl phosphate for mfr., 541.  
 —, visibility, diminishing, 483.  
 Airplane cloth, testing, 537.  
 Airplane dope, *see* Lacquer, airplane.  
 Airplane fabric, cellulose acetate in mfr. lacquer for, 435.  
 —, cellulose nitrate in mfr. lacquer for, 435.  
 —, sunlight action on, 436.  
 Airplane wing, coating, cellulose ether for, 98.  
 —, cellulose propionate for, 1698.  
 Airship, *see* Aircraft.  
 Ajacol, *see* Pyrocatechin monomethyl ether.  
 Alabaster, pearl, artificial, made using, 2612.  
 Alanine, 1638.  
 —, amines solvent for, 2008.  
 —, cellulose acetate dyed using, 674.  
 —, *see also* Amido-propionic acid.  
 Albertat 175 A, lacquer containing, 2391.  
 Albertol, delustring with, 2187.  
 Albertol resin, paint containing, 1585.  
 —, lacquer containing, 2391.  
 Albumen, 2056.  
 —, cellulose acetate dyed in presence of, 510.  
 —, cellulose acetate ironing temperature reduced by, 933.  
 —, cellulose acetate loaded by, 623.  
 —, cellulose nitrate film coated with, 706.  
 —, delustring with, 2187.  
 —, film containing, 486.  
 —, formylated, 2056.  
 —, thickener, 1415.  
 Albumin, cellulose ether precipitant, 2086.  
 —, crepe effect made using, 2338.  
 Albumin, dyeing in presence of, 2270.  
 —, sizing with, 2139.  
 —, *see also* Albumen; Casein; Caseinates.  
 Albuminoids, sizing with, 2139.  
 Alco Deo, *see* Diacetone alcohol.  
 Alcofuel, 487.  
 —, mfr., 2480.  
 Alcoheat, 487, 2480.  
 Alcohol, amyl, *see* Amyl alcohol.  
 —, anhydrous, cellulose nitrate solvent, 1833.  
 —, absolute, cellulose acetate solvent, 702.  
 —, acetaldehyde from, 492.  
 —, benzyl, *see* Benzyl alcohol.  
 —, benzene and, cellulose ether solvent, 1802.  
 —, benzylcellulose solvent, 278, 1345.  
 —, benzyl dextrin solvent, 1516.  
 —, butyl, *see* Butyl alcohol.  
 —, butylbenzylcellulose solvent, 278, 1345.  
 —, butylcellulose solvent, 278, 1345.  
 —, cellulose acetate hydrolyzed by, 779.  
 —, cellulose acetate non-solvent, 336.  
 —, cellulose acetate relustred by, 723.  
 —, cellulose acetate solvent, 1039, 1345.  
 —, cellulose acetate swelling agent, 715, 960.  
 —, cellulose acetate waste recovered by, 594.  
 —, cellulose acetobutyrate, solubility, 1345.  
 —, cellulose acetobutyrolaurate, solubility, 1345.  
 —, cellulose acetolaurate, solubility, 1345.  
 —, cellulose acetopropionate, solubility, 1345.  
 —, cellulose butyrate, solubility, 1345.  
 —, cellulose butyrolaurate, solubility, 1345.  
 —, cellulose capronate, solubility, 1345.  
 —, cellulose ether delustred with, 185.  
 —, cellulose ether dyeing using, 2237.  
 —, cellulose ether purified by, 1462.

- Alcohol, cellulose ether solvent, 8, 22, 1447, 2351, 2356.
- , cellulose ether solvent of chloroform and, 54.
- , cellulose formate, solubility, 1345.
- , cellulose laurate, solubility, 1345.
- , cellulose naphthenate, solubility, 1345.
- , cellulose naphthenate-laurate, solubility, 1345.
- , cellulose naphthenate-oleate-laurate, solubility, 1345.
- , cellulose pelargonate, solubility, 1345.
- , cellulose pretreated with, 1432.
- , cellulose propionate, solubility, 1345.
- , cellulose stearate, solubility, 1345.
- , cellulose valerate, solubility, 1345.
- , coating against, cellulose acetate for, 2395.
- , delustring with, 185.
- , dispersive action of on cellulose ether, 204.
- , dye solvent, 749.
- , *ethyl*, see *Ethyl alcohol*.
- , ethylbenzylcellulose solvent, 278, 1345.
- , ethylbutylcellulose solvent, 278, 1345.
- , ethylcellulose solvent, 17, 18, 20, 21, 278, 1226, 1332, 1345, 1423, 1437, 1442, 2233.
- , ethylcellulose xanthanilid solvent, 1644.
- , film, cellulose acetate dyed using, 1006.
- , glass, window, made using, 2553.
- , guanin insoluble in, 2614.
- , horn, artificial, made using, 2607.
- , ink, marking, containing, 2330.
- , lacquer, fireproof, containing, 520.
- , leather dressing made using, 868.
- , light-transforming composition containing, 461.
- , mfr. of, 701.
- , *methyl*, see *Methyl alcohol*.
- , methylcellulose coagulated by, 1460.
- Alcohol, methylcellulose solvent, 278, 1345.
- , methyl starch solvent, 1473.
- , *propyl*, see *Propyl alcohol*.
- , propyl benzylcellulose solvent, 278, 1345.
- , propylcellulose solvent, 278, 1345.
- , relustring cellulose acetate with, 723.
- , solid, ammonium oleate in mfr., 486.
- , —, cellulose acetate in mfr., 486.
- , —, cellulose nitrate in mfr., 486.
- , —, gum lac in mfr., 486.
- , —, kieselguhr in mfr., 486.
- , —, paraffin in mfr., 486.
- , —, rosin in mfr., 486.
- , —, shellac in mfr., 486.
- , —, soap in mfr., 486.
- , —, sodium silicate in mfr., 486.
- , —, sodium stearate in mfr., 486.
- , —, stearic acid in mfr., 486.
- , —, stearin in mfr., 486.
- , starch ether non-solvent, 1472.
- , starch ether solvent, 1484.
- , sucrose, benzylated, solvent, 1517.
- , vapor sorption by, 1067.
- , see also *Ethyl alcohol*.
- Alcoholate, cellulose formate solvent, 421.
- Alcoholbenzene, cellulose ether solvent, 22, 1447.
- , ethylcellulose soluble in, 1226.
- , ethylcellulose solvent, 1436, 1437, 1442.
- , ethylcellulose xanthanilide solvent, 1644.
- Alcohol-chloroform, ethylcellulose solvent, 1436, 1437.
- , ethylcellulose xanthanilid solvent, 1644.
- Alcohol cubes, mfr., 2480.
- Alcohol-ether, ethylcellulose xanthanilid solvent, 1644.
- , see also *Ether-alcohol*.
- Alcohol-methyl formate, cellulose ether solvent, 213.
- , filament, hollow, made using, 213.
- Alcohols, cellulose acetate swelled by, 553.
- , container for, protecting, 847.
- , esterification, velocity of, 702.
- , polyatomic, ethers of, 309.

- Alcohol-toluene, ethylcellulose solvent, 1442.  
*Alcolene*, see *Alkalen*; *Alkolen*.  
Alcol-Oil, 1833.  
Aldehyde, acetic acid mfr. using, 563.  
—, benzene sulfonamide condensate of, 173.  
—, cellulose acetate precipitated by, 1043.  
—, cellulose acetate treated with, 495.  
—, ethylcellulose water-solubility diminished by, 1347.  
—, mfr. of, 782.  
—, plastic containing, 475.  
—, resin, artificial, from, 1577.  
—, xylene sulfonamide condensate of, 173.  
—, see also *Acetaldehyde*; *Formaldehyde*.  
Aldehyde resin, 151.  
—, film made using, 2522.  
Aldol, 1865, 1868, 1869.  
—, amines solvent for, 2008.  
—, celluloid solvent, 890.  
—, cellulose acetate plastic, 464.  
—, cellulose acetate solvent, 890, 1785.  
—, mfr. of, 541, 656, 714, 983.  
Aldolmethylacetate, 1873.  
*Aldoxim*, see *Acetaldoxim*.  
Algae, acetic acid made from, 1033.  
—, butyric acid made from, 1033.  
—, cellulose acetate fire-retardant, 498.  
—, cloth fireproofed with, 441.  
—, crepe effect made using, 2338.  
—, wood fireproofed with, 441.  
Alginate, cellulose acetate fire-retardant, 498.  
—, cellulose nitrate emulsifier, 267.  
—, cloth fireproofed with, 441.  
—, emulsifying with, 267.  
—, filament sized with, 1071.  
—, metallic, cellulose acetate addition for lacquer, 571.  
—, wood fireproofed with, 441.  
*Alginic acid*, see *Algin*.  
Algol, cellulose acetate dyed using, 606, 637.  
—, cellulose ether dyed with, 2242.  
Algol Black RO, cellulose acetate dyed using, 686.  
Algol Blue K, cellulose acetate dyed using, 723.  
—, cotton dyed using, 723.  
Algol Brilliant Violet 2B, cellulose acetate dyed using, 684.  
—, cellulose ether dyed using, 2238.  
Algol Pink R, 2242.  
—, cellulose acetate dyed using, 606.  
Algol Rose R, cellulose acetate dyed by, 512.  
Algol Scarlet G, cellulose acetate dyed by, 512.  
—, cellulose ether dyed, 2147.  
Algol Violet B, cellulose acetate dyed by, 512.  
Algol Yellow WG, cellulose acetate dyed by, 512.  
Aliphatic acid, mfr., 1031.  
Aliphatic *α*-hydroxy *iso*-acid, esters of, cellulose acetate solvent, 736.  
Alizarin, amines solvent for, 2008.  
—, cellulose acetate dyed by, 512.  
—, cellulose ether dyed by, 142, 2147, 2259.  
Alizarin Astrol B, benzylcellulose dyed by, 62, 1584.  
—, cellulose ester dyed by, 62.  
—, cellulose ether dyed using, 2225, 2226.  
—, ethylcellulose dyed by, 62.  
—, methylcellulose dyed by, 62.  
Alizarin blue SAP, 2321.  
Alizarin Bordeaux paste, cellulose acetate dyed by, 512.  
Alizarin geranol base, cellulose acetate dyed using, 530.  
—, cellulose ether dyeing using, 2237.  
Alizarin lake, pigment in cellulose acetate lacquer, 582.  
Alizarin orange, cellulose acetate dyed by, 512.  
—, see also *Nitro-alizarin*, (*b*).  
Alizarin Rubinole B, 885.  
Alizarin Rubinole R, 2320.  
Alizarin Yellow, 2321.  
Alizarin Yellow GG, 2351.  
—, cellulose acetate dyed using, 650.  
Alizarin Yellow R, cellulose acetate dyed by, 512.  
—, indicator, 1194.  
*Alkalen*, see *Alcolene*; *Alkolen*.  
Alkali, cellulose ether viscosity reduced by, 1363.  
—, container for, cellulose acetate, 545.  
Alkali acetate, mfr., 715.



- Alkali alcoholates, cellulose mercerized by, 13.
- Alkali Blue B, lacquer, colored, made using, 2417.
- Alkali bromide, cellulose formate solvent, 388.
- Alkali caseinate, cellulose ether dyed using, 2262.
- Alkalicellulose, 1183.
- , acetylating, 626, 709.
- , ageing, 1104, 1205, 1239, 1242.
- , allylbromide and for cellulose ether mfr., 305.
- , aniline and for cellulose ether mfr., 305.
- , benzoyl chloride action on, 920.
- , 1-*b*-bromethylpiperidine for etherifying, 299.
- , carbon bisulfide and for cellulose ether mfr., 305.
- , chloracetic acid compound of, 518.
- , chloracetic ester and for cellulose ether mfr., 305.
- , 1-*b*-chlorethylpiperidine for etherifying, 299.
- , chlormethoxysulfonyl chloride for etherifying, 301.
- , concentrating, 293.
- , cyanuric bromide treated, 298.
- , cyanuric chloride treated, 298.
- , dehydrating, 55.
- , dichlordimethyl sulfate for etherifying, 301.
- , dichlorphthalazine treated, 298.
- , dichlorquinazoline treated, 298.
- , diethylenediamine and for cellulose ether mfr., 305.
- , dimethyl-*p*-phenylenediamine and for cellulose ether mfr., 305.
- , drug, 1227, 1241.
- , dry, alkylation of, 1422.
- , drying, 293.
- , epichlorhydrin action on, 89.
- , esterifying, 605, 682.
- , ethylating, 46.
- , ethylene chlorhydrin action on, 89.
- , ethylenediamine and for cellulose ether mfr., 305.
- , heat in formation of, 1187.
- , maleic acid hydrazide dichloride treated, 298.
- , mfr. of, 28, 94, 155, 1223, 1236, 1413, 1417, 1445.
- , mfr. continuous, 1233.
- , mfr. low water content, 85.
- Alkalicellulose, monochlordimethyl sulfate for etherifying, 301.
- ,  $\alpha$ -monochlorhydrin action on, 89.
- , naphthenic ester of, 681.
- , oxidizing, 1192, 1209, 1229.
- , phthaloyl chloride action on, 920.
- , piperazine and for cellulose ether mfr., 305.
- , press for, 1240.
- , pressing, 1239.
- , properties, 827.
- , shredding, 1239.
- , sodium hydroxide for, 1222.
- , spectrogram of, 1215.
- , tribrompyrimidine treated, 298.
- , xanthation, 1104.
- , X-ray data on, 1215.
- , X-ray diffraction of, 1218.
- Alkalicellulose diacetate, 980.
- Alkalicellulose glycollate, mfr., 823, 824.
- , properties, 823, 824.
- Alkalicellulose xanthoacetate, mfr., 815.
- Alkali earth cyanide, aldol made using, 541.
- Alkali earth hydroxide, aldol made using, 541.
- Alkali earth oxide, aldol made using, 541.
- Alkali ethoxide, cellulose acetate hydrolyzed by, 744.
- Alkali hydroxide, cellulose purified by, 1409.
- Alkali iodide, cellulose formate solvent, 388.
- Alkali lignin, 1175.
- Alkali metal zincate, loading with, 2148.
- Alkali monosulfonate, cellulose formate solvent, 463.
- Alkaline borate, degumming with, 2310.
- Alkaline cresolate, degumming with, 2310.
- Alkaline hydroxide, degumming with, 2310.
- Alkaline phenolate, degumming with, 2310.
- Alkaline phosphate, degumming with, 2310.
- Alkali nitrate, cellulose formate solvent, 463.
- Alkali oleate, cellulose ether softener, 2122.

- Alkali peroxide, cellulose purified by, 1411.  
Alkali polysulfonate, cellulose formate solvent, 463.  
Alkali salt of tetrabromfluorescein, *see Eosine (dye)*.  
Alkali salt of tetraiodofluorescein, *see Erythrosine (dye)*.  
Alkali starch, esterifying, 795.  
Alkalit, 2637.  
Alkali thiocyanate, cellulose acetate swelled by, 810.  
Alkali waste, *see Calcium sulfide*.  
Alkaloids, acetation of, 309.  
—, crystal effects produced with, 2429.  
Alkannin, *see Alkanin*.  
Al-Kol, 1833.  
Alkoxyacetic acid, 1699.  
Alkoxyaliphatic acids, anhydrides from, 1030.  
1-Alkoxy-4-aminoanthraquinone, cellulose ether dyed using, 2248.  
*p*-Alkoxyaniline, cellulose ether dyed using, 299.  
Alkoxyanthraquinone, cellulose ester dyed with, 195.  
—, cellulose ether dyed with, 195.  
Alkoxy-hydroxynaphthalene, 1088.  
Alkoxy, determination of, 2656.  
Alkyd resins, 1077, 2106.  
Alkyl abietate, mfr., 884.  
Alkylacetanilid, cellulose acetate solvent, 471.  
Alkyl acrylate, cellulose acetate solvent, 507.  
Alkylamine, cellulose ether lacquer containing, 155.  
—, hydrolyzing, cellulose acetate with, 421.  
—, hydroxylated, cellulose ether dyed using, 2246.  
—, lacquer containing, 2418.  
Alkylamine chloride, acetic anhydride made using, 770.  
Alkylamine phosphate, acetic anhydride made using, 770.  
Alkylamine sulfate, acetic anhydride made using, 770.  
Alkylaminoazo compounds, cellulose acetate dyed using, 504.  
Alkylaminobenzo-quinone, cellulose ester dyed with, 180.  
—, cellulose ether dyed with, 180.  
Alkylaminonaphthols, cellulose ether solvent, 106.  
Alkylaminonaphtho-quinone, cellulose ester dyed with, 180.  
—, cellulose ether dyed with, 180.  
Alkylammonium chloride, acetic anhydride made using, 865.  
Alkylammonium phosphate, acetic anhydride made using, 865.  
Alkylammonium sulfate, acetic anhydride made using, 865.  
Alkylaniline, cellulose acetate dye fastness improved by, 607.  
—, cellulose ether dyed using, 2266.  
—, cellulose ether solvent, 106.  
—, solubilizing agent, 2219.  
Alkylaniline chloride, acetic anhydride made using, 770, 865.  
Alkylaniline phosphate, acetic anhydride made using, 770, 865.  
Alkylaniline sulfate, acetic anhydride made using, 770, 865.  
*N*-Alkylaralkylaniline sulfonic acid, cellulose acetate dyed using, 676.  
Alkyl-aralkylcellulose, 1592.  
*C*-Alkylated cresol, acetic acid extracted by, 830.  
Alkyl benzene, cellulose ester plasticizer, 303.  
—, cellulose ether plasticizer, 303.  
Alkyl butyrate, 1935.  
Alkylcellulose, acetolysis, 1367.  
—, bone oil with for treating leather, 193.  
—, card, playing, made using, 292.  
—, depolymerization, 1367.  
—, divisibility, 1374.  
—, dyeing, 86.  
—, dye preserved by, 208.  
—, glass, laminated, made using, 2590.  
—, inflammability, 1372.  
—, mfr. of, 245, 1404, 1416, 1418.  
—, —, one-step, 1433.  
—, mechanical properties, 1342.  
—, mineral oil with for treating leather, 193.  
—, neatsfoot oil with for treating leather, 193.  
—, plasticity, 1351.  
—, porosity, increasing, 1346.  
—, properties, 1300, 1341.  
—, receptivity, increasing, 1346.  
—, solubility, 1341, 1346.  
—, solvents for, 1426.  
—, spectrographic properties, 1370.  
—, stability, 1341, 1365.  
—, structure-viscosity of, 1353.

- Alkylcellulose, swelling (in water), prevention of, 85.
- , train oil with for treating leather, 193.
  - , uses, 1404.
  - , viscosity, 1351.
  - , —, changes in, 1356.
  - , —, increasing, 1357.
  - , —, lowering of, 1354, 1356.
  - , —, reducing, 1352.
  - , —, water effect on, 1354, 1356.
  - , water-insoluble, mfr., 1421.
  - , water-soluble, 1347.
  - , —, insolubilizing, tannin for, 1426.
  - , wool fat with for treating leather, 193.
  - , *see also Amyl cellulose; Butylcellulose; Ethylcellulose; Methylcellulose.*
- Alkylcellulose acetate, card, playing, made using, 292.
- Alkylcellulose thiourethane, 1645.
- Alkylcellulose xanthanilid, 1645.
- Alkyl chlorides, cellulose acetate precipitated by, 1043.
- Alkyl crotonate, cellulose acetate solvent, 507.
- Alkyl-glyceryl ethers, cellulose acetate plastifier, 508.
- Alkylhydroxyalkylcellulose, mfr., 1612.
- Alkyl-hydroxynaphthalene, 1088.
- Alkylidene glyceryl ethers, cellulose acetate plastifier, 508.
- Alkyl lignin, mfr. of, 233, 1622.
- Alkyl naphthalenes, cellulose ether dyed using, 2268.
- Alkyl naphthalenesulfonates, flax purified by, 1179.
- Alkyl naphthalenesulfonic acid, cellulose acetate dyed using, 676.
- , cellulose ether dyed using, 2311.
- Alkyl- $\alpha$ -naphthylamine, cellulose ether dyed using, 2274.
- Alkylphenylenediamines, cellulose acetate dye fastness improved by, 607.
- , cellulose ether dyed using, 2266.
- Alkyl phthalate, cellulose acetate plastic, 960.
- , cellulose ether setting bath containing, 262, 263.
  - , glass, laminated, made using, 2586, 2594.
- Alkylpiperidine, 1746.
- Alkylpiperidine, cellulose acetate hydrolyzed using, 958.
- , cellulose combined with, 228.
- Alkyl sebacate, 1939.
- Alkyl sulfite, alkylating with, 1250.
- Alkylthiocarbamate, see Alkylthiourethane.*
- Alkyl thiocarbimides, 1641.
- Alkylthiolanthraquinone, cellulose ester dyed with, 195.
- , cellulose ether dyed with, 195.
- Alkyl-*p*-toluene sulfonate, alkylating with, 1250.
- Alkyl ureas, lacquer containing, 2395.
- Alkyl urethane, plastic made containing, 2563.
- Alkylxanthamide, see Alkylthiourethane.*
- Alkylxyloses, 1500.
- a*-Alloamylosan, 1001.
- b*-Alloamylosan, 1001.
- Allocain S, ethyl bromide in mfr., 1275.
- Allomaleic acid, see Fumaric acid.*
- Allophanamide, see Biuret.*
- Allosan, 1907.
- Allyl acrylate, 1953.
- Allyl alcohol, 1290, 1291, 1636, 1769.
- , amines solvent for, 2008.
  - , ethylcellulose lacquer containing, 2411.
  - , flash point, 2060.
  - , resin, artificial, made using, 1079.
  - , wood oil containing, 296.
- Allylanthraquinones, cellulose ether dyed using, 2262.
- Allylbenzylcellulose, 1766.
- Allylbromide, 163, 208, 298, 1291, 1636, 1638, 1640, 1641, 1747, 1748, 1766, 2313.
- , alkal cellulose compound with, 305.
  - , celluloid solvent, 890.
  - , cellulose acetate solvent, 890, 1785.
  - , cellulose ether made using, 250.
  - , cellulose treated with, 250.
  - , mfr., 1290, 1291.
  - , properties, 1291.
  - , uses, 1291.
- Allylcarbohydrate ether, 1636.
- Allylcellulose, 910, 1635, 1639, 2623.
- , mfr. of, 99, 163, 298, 1291, 2313.
  - , solubility, 163.

- Allylcellulose, solvents of, 163.  
 Allylcellulose oxalate, mfr., 870.  
 Allylcellulose xanthate, 1766.  
 Allylchloride, 1403, 2313.  
 —, cellulose esterified using, 870.  
 Allyldextrin, mfr. of, 99, 1291.  
 Allylformate, 1291.  
 a-Allylglucoside, 1636.  
 b-Allylglucoside, 1636.  
 Allyl-d-glucoside, 1635.  
 Allyl-3,4-guaiacol, 1863.  
 Allyl halide, 2313.  
 Allylhydrocellulose, 1637.  
 Allyl mustard oil, 1641.  
 p-Allylphenylmethyl ether, *see*  
   *Anethol*.  
 Allyl propionate, 1934.  
 Allylstarch, mfr. of, 99, 1291.  
 Allylsugar, mfr. of, 99, 1291.  
 Allyl sulfocarbamide, *see*  
   *Thiosinamine*.  
 Allyl isosulfocyanic ester, allyl iso-  
   thiocyanate, *see* *Allyl mustard*  
   *oil*.  
 Allyl sulfourea, *see* *Thiosinamine*.  
 Allyltetracetyl-d-glucoside, 1635.  
 Allyl thiourea, *see* *Thiosinamine*.  
 Almond oil, 1924.  
 Aloe purple, *see* *Aloetic acid*.  
 Aloeretic acid, *see* *Picric acid*.  
 Aloetic acid, *see* *Aloetic acid*.  
 Alpha compounds, *see* *a-Com-*  
   *pounds*.  
 Altai, *see* *Triphenyl phosphate*.  
 Alternia, 2201.  
 —, growth on cellulose acetate  
   fabric, 965.  
 Altex black DB, cellulose ether  
   dyed using, 2288.  
 Altex bordeaux B, cellulose ether  
   dyed using, 2288.  
 Altex brown G, cellulose ether dyed  
   using, 2288.  
 Altex dark green B, cellulose ether  
   dyed using, 2288.  
 Altex dyes, 971.  
 —, cellulose ether dyed using, 2288.  
 Altex helio R, cellulose ether dyed  
   using, 2288.  
 Altex light green G, cellulose ether  
   dyed using, 2288.  
 Altex navy B, cellulose ether dyed  
   using, 2288.  
 Altex nigger brown G, cellulose  
   ether dyed using, 2288.  
 Altex orange G, cellulose ether  
   dyed using, 2288.  
 Altex red B, cellulose ether dyed  
   using, 2288.  
 Altex saxe blue R, cellulose ether  
   dyed using, 2288.  
 Altex yellow G, cellulose ether dyed  
   using, 2288.  
*Althein*, *see* *Asparagin*.  
 Alum, ammonia, acetic acid con-  
   centrated with, 558.  
 —, benzylcellulose treated with,  
   1561.  
 —, cellulose acetate hydrated by,  
   478.  
 —, cellulose ester delustred by, 221.  
 —, cellulose ether delustred by, 221.  
 —, cellulose ether mordanted with,  
   144.  
 —, chrome, alkylcellulose treated  
   with, 1426.  
 —, delustring with, 2194.  
 —, fireproofing with, 566.  
 —, mordant, 144.  
 —, potash, alkylcellulose treated  
   with, 1426.  
*Alumina*, *see* *Aluminum oxide*.  
 Alumina fume, opacity of, 2177.  
 Aluminum, acetic acid mfr. using,  
   633.  
 —, cellulose acetate coated, 819.  
 —, cellulose acetate gelatin substi-  
   tute, 39.  
 —, cellulose acetate lacquer con-  
   taining, 616.  
 —, cellulose acetate paint contain-  
   ing, 616.  
 —, cellulose propionate gelatin  
   substitute, 39.  
 —, decorative leaf made using, 457.  
 —, dichlorethylene made using, 550.  
 —, discharge of salt of, for cellu-  
   lose ether, 184.  
 —, film, opaque, made using, 248.  
 —, hexachlorethane made using,  
   925.  
 —, loading benzylcellulose with  
   salts of, 1584.  
 —, pencil ornamenting using, 843.  
 —, plate printing made using, 648.  
 —, powdered, cellulose ether lac-  
   quer containing, 2404.  
 —, filament treated with, 2363.  
 Aluminum abietate, sizing with,  
   2141.  
 Aluminum acetate, 952, 2142.  
 —, basic, melting point, cellulose  
   ether raised by, 136.

- Aluminum acetate, cellulose acetate ironing temperature reduced by, 933.
- , cellulose acetate luster modified by, 609.
- , cellulose ether fireproofed by, 135.
- , cellulose ether fixative, 104.
- , dyeing in presence of, 459.
- , fireproofing with, 2129.
- , flameproofing with, 2129.
- , loading with, 2150, 2152, 2155.
- , mordant in cellulose ether dyeing, 104.
- , mordanting with, 143, 488.
- , printing with, 2322.
- , safe-ironing temperature raised by, 2361.
- , waterproofing with, 218, 2158.
- Aluminum acetochloride, loading with, 2152.
- Aluminum acetonitrile, loading with, 2152.
- Aluminum acetosulfate, loading with, 2152.
- Aluminum alginate, cellulose acetate addition for lacquer, 571.
- Aluminum alloy, cellulose acetate lacquer containing, 616.
- , cellulose acetate paint containing, 616.
- Aluminum amalgam, cellulose acetate etherified in presence of, 1434.
- , cellulose benzoate etherified in presence of, 1434.
- , cellulose butyrate etherified in presence of, 1434.
- , cellulose formate etherified in presence of, 1434.
- , cellulose propionate etherified in presence of, 1434.
- Aluminum ammonium citrate, loading with, 2152.
- Aluminum ammonium sulfate, ethyl acetate made using, 687.
- Aluminum benzoate, loading with, 2155.
- Aluminum benzyl phthalate, 1974.
- Aluminum benzylsulfonate, 1602.
- , mfr. of, 123.
- Aluminum borate, catalyst, 866.
- Aluminum bromide, 1254.
- , *b*-halogenethyl ketone made using, 710.
- , methyl-*b*-bromomethyl ketone made using, 710.
- Aluminum bromide, methyl-*b*-chloroethyl ketone made using, 710.
- Aluminum bronze, film, opaque, made using, 2526.
- Aluminum butylate, cellulose ether combined with, 272.
- , delustering with, 2181.
- Aluminum butyl phthalate, 1974.
- Aluminum chlorate, discharge, 2319.
- Aluminum chloride, 1710, 1807, 2641.
- , acetic anhydride made using, 735, 1047.
- , benzylcellulose waterproofed by, 2158.
- , carbonizing with, 105, 735, 767, 2203, 2205, 2309.
- , catalyst, 211.
- , catalyst in acetic anhydride mfr., 843.
- , catalyst in ethyl chloride mfr., 1268, 1269.
- , cellulose acetate loaded with, 637.
- , cellulose acetate luster modified by, 609.
- , cellulose acetate relustred by, 608.
- , cellulose ether dyed using, 2299.
- , cellulose ether treated with, 271.
- , cellulose ether viscosity reduced by, 1365, 2093.
- , cotton carbonized with, 951.
- , ethylcellulose waterproofed by, 2158.
- , film made using, 2524.
- , *b*-halogenethyl ketone made using, 710.
- , hexachloride made using, 925.
- , linen carbonized with, 951.
- , luster of cellulose acetate preserved by, 632.
- , luster preserved by, 2172, 2173.
- , methyl-*b*-bromomethyl ketone made using, 710.
- , methylcellulose waterproofed by, 2158.
- , methyl-*b*-chloroethylketone made using, 710.
- , plastic made containing, 2565.
- , tar oils from acetylene and, 46.
- , trichlorhydrin made using, 572.
- , trichloropropane made using, 572.
- , vegetable fiber in mixed fabric removed by, 631.

- Aluminum chloride, waterproofing cellulose ether with, 217.
- , waterproofing with, 218.
- , weighting cellulose ether by, 229.
- Aluminum chromate, cellulose acetate luster modified by, 609.
- Aluminum citrate, cellulose ether mordant, 142.
- , cellulose nitrate solvent, 1893.
- , loading with, 2155.
- Aluminum compounds, mordanting with, 218.
- , weighting with, 218.
- Aluminum o-cresolate, cellulose ether combined with, 272.
- , delustring with, 2181.
- Aluminum ethylate, cellulose ether combined with, 272.
- , delustring with, 2181.
- , ethyl acetate mfr. using, 516.
- , mfr. of, 516.
- Aluminum flakes, lacquer containing, 727.
- Aluminum fluoride, abrasive containing, 940.
- , cellulose acetate inflammability reducer, 92.
- , cellulose ether inflammability reducer, 92.
- , cellulose nitrate inflammability reducer, 92.
- , coating, fire-resistant, containing, 687.
- Aluminum formate, 2142.
- Aluminum glycollate, cellulose ether mordant, 142.
- , loading with, 2152, 2155.
- Aluminum hexahydrobenzoate, see Aluminum naphthenate.*
- Aluminum hydroxide, cellulose acetate plastic containing, 353.
- , cellulose ether colored by, 266.
- , cellulose nitrate plastic containing, 353.
- , dyeing in presence of, 459.
- , glycols made using, 489.
- , mordanting with, 266, 488.
- , stencil sheet made using, 2490.
- Aluminum lactate, cellulose ether mordant, 142.
- , cellulose nitrate solvent, 1893.
- , creping with, 1583.
- , loading with, 2152, 2155.
- Aluminum levulinate, cellulose nitrate solvent, 1893.
- Aluminum linoleate, lacquer binder, 458.
- Aluminum magnesium naphthenate, cellulose acetate plastifier, 481.
- , leather, artificial, made using, 481.
- Aluminum metaphosphate, catalyst in acid mfr., 788.
- , catalyst in ester mfr., 788.
- Aluminum methylate, acetic acid mfr. using, 634.
- , acetone made using, 772.
- , catalyst in aliphatic acid mfr., 1031.
- , zinc acetate made using, 772.
- Aluminum methyl phthalate, 1974.
- Aluminum naphthenate, 1965.
- , benzene solvent of, 107, 1802.
- , cellulose acetate plastifier, 481.
- , leather, artificial, made using, 481.
- , sizing with, 107, 2141.
- , stencil sheet made using, 976, 2490.
- , toluene solvent of, 107.
- , turpentine oil solvent of, 107.
- , xylene solvent of, 107.
- Aluminum nitrate, cellulose acetate luster modified by, 609.
- Aluminum nitrate-acetate, cellulose ether mordant, 142.
- Aluminum oleate, cellulose acetate mordanted with, 867.
- , cellulose acetate saponified by, 501.
- , cellulose ether weighted with, 227.
- , delustring with, 2183.
- Aluminum oxalate, cellulose acetate luster modified by, 609.
- , cellulose nitrate solvent, 1893.
- Aluminum oxide, 1870.
- , acetaldehyde mfr. using, 481.
- , benzylcellulose stabilizer, 1564.
- , catalyst, 154.
- , cellulose acetate saponified by, 501.
- , cellulose ester delustred by, 270.
- , cellulose ester weighted with, 216, 270.
- , cellulose ether colored by, 266.
- , cellulose ether delustred by, 270, 271.
- , cellulose ether weighted with, 216, 270.
- , delustring by, 271, 274, 2169, 2179.

- Aluminum oxide, loading with, 2156.  
—, mordanting with, 266.  
Aluminum palmitate, cellulose acetate mordanting with, 867.  
—, cellulose ether weighted with, 227.  
—, delustring with, 2183.  
—, lacquer containing, 192.  
Aluminum perchlorate, bleaching cellulose by, 1411.  
—, catalyst in cellulose acetate mfr., 688.  
—, cellulose purified by, 1411.  
Aluminum phenolate, cellulose ether combined with, 272.  
—, delustring with, 2181.  
Aluminum phosphate, benzylcellulose loaded with, 1590.  
—, benzylcellulose treated with, 1561, 1562.  
—, catalyst, 864, 866.  
—, catalyst in acetic acid mfr., 516, 916.  
—, catalyst in methyl acetate mfr., 916.  
—, cellulose acetate fire-retardant, 497.  
—, cellulose acetate inflammability reducer, 92.  
—, cellulose acetate loaded by, 623.  
—, cellulose ether inflammability reducer, 92.  
—, cellulose nitrate inflammability reducer, 92.  
—, ethylcellulose loaded with, 1590.  
—, fireproofing with, 2129.  
—, flameproofing with, 2129.  
—, weighting with, 2146, 2150, 2151.  
—, weighting fabric with, 110.  
Aluminum phthalate, loading with, 2155.  
Aluminum *iso*-propylate, cellulose ether combined with, 272.  
—, delustring with, 2181.  
Aluminum resinate, 1947.  
—, benzene solvent of, 107.  
—, cellulose ether viscosity reduced by, 1365, 2093.  
—, dichlorethane solvent for, 1816.  
—, lacquer binder, 458.  
—, sizing with, 107, 2141.  
—, toluene solvent of, 107.  
—, turpentine oil solvent of, 107.  
—, xylene solvent of, 107.  
Aluminum ricinate, 1939.  
Aluminum salicylate, loading with, 2155.  
Aluminum salt, benzylcellulose loaded with, 137.  
—, cellulose ether weighted by, 227.  
—, discharge effect using, 2317.  
—, ethylcellulose loaded with, 137.  
—, methylcellulose loaded with, 137.  
Aluminum silicate, benzylcellulose loaded with, 1590.  
—, catalyst, 866.  
—, cellulose acetate loaded by, 623.  
—, dyeing in presence of, 459.  
—, ethylcellulose loaded with, 1590.  
—, mordanting with, 488.  
—, weighting fabric with, 110.  
Aluminum stearate, 1845.  
—, cellulose ether weighted with, 227.  
—, delustring with, 2183.  
—, stencil sheet made using, 2497.  
Aluminum sulfacetate, cellulose ether mordant, 142.  
Aluminum sulfate, 1870.  
—, alkylcellulose swelling in water, preventing, 85.  
—, alkylcellulose treated with, 1426.  
—, benzylcellulose waterproofed by, 2158.  
—, cellulose acetate fire-retardant, 497.  
—, cellulose acetate luster modified by, 609.  
—, cellulose acetate relustred by, 608.  
—, cellulose ether mordanted with, 144.  
—, cellulose ether viscosity reduced by, 1365, 2093.  
—, discharge effect produced by, 219.  
—, ethylcellulose with, 2465.  
—, ethylcellulose waterproofed by, 2158.  
—, loading with, 2147, 2150.  
—, methylcellulose with, 2465.  
—, methylcellulose waterproofed by, 2158.  
—, mordant, 143, 144.  
—, stencil sheet made using, 2499.  
—, waterproof cellulose ether with, 217.  
—, wood pulp digested with, 1171.  
Aluminum sulfuricinoleate, 1939.  
Aluminum tannate, benzylcellulose loaded with, 1590.

- Aluminum tannate, ethylcellulose loaded with, 1590.  
—, loading with, 2151.  
—, stencil made using, 663.  
—, stencil sheet made using, 663, 2490.  
Aluminum tartrate, cellulose nitrate solvent, 1893.  
Aluminum thiocyanate, 1688, 2142.  
—, benzylcellulose mordanted by, 113, 1587.  
—, benzylcellulose waterproofed by, 2158.  
—, ethylcellulose mordanted by, 113.  
—, ethylcellulose waterproofed by, 2158.  
—, loading with, 2154, 2155.  
—, methylcellulose mordanted by, 113.  
—, methylcellulose waterproofed by, 2158.  
—, mordanting cellulose ether with, 226.  
—, waterproofing cellulose ether with, 217.  
—, weighting cellulose ether with, 226.  
Aluminum tungstate, catalyst, 864.  
Alveolar silk, 2364.  
—, mfr., 807.  
Amber, 2054.  
—, cellulose acetate in simulating, 580.  
—, cellulose ester and as varnish, 246.  
—, cellulose ether and as varnish, 246.  
—, dichlorethylene solvent for, 1821.  
—, substitute, linters in mfr. of, 1152.  
Amber oil, fabric coated using, 2485.  
Amcella, 491.  
Amides, 2006.  
—, plastic made containing, 2563.  
Amidex, cellulose acetate dyed in presence of, 651.  
Amidines, 1645, 2015.  
*Amidoacetic acid*, see *Glycine*, *Glycocol*.  
*Amidoacetophenetidine*, see *Phenocol*.  
*p-Amido-azobenzol*, see *p-Amido-azo-benzene*.  
*Amidobarbituric acid*, see *Uramil*.  
Amidobenzene, diazotized, 2318.  
*Amidobenzene*, see also *Aniline*.  
*m-Amidobenzenesulfoazodiphenylamine*, 2015.  
—, sodium salt of, 2015.  
*Amido-benzoic acid*, see *Anthranilic acid*.  
*Amidobenzol*, see *Aniline*.  
*Amidocaproic acid*, see *Leucine*.  
Amidocarbonate, 1955.  
Amidocellulose, 1751, 1753, 1756, 1758.  
Amidocellulose malonate, 1754.  
*Amidocumene*, see *Cumidine*.  
*p-Amidodimethylaniline*, cellulose ether dyed using, 2254.  
*Amidodimethylbenzene*, see *Xyldine*.  
*Amido (di) phenol*, see *Amidol*.  
*p-Amido-diphenyl-imide*, see *p-Amido-azobenzene*.  
*Amidoethane*, see *Ethylamine*.  
Amidoethylcellulose, 1757.  
—, see also *Ethylamidocellulose*.  
*Amidoethylsulfonic acid*, see *Taurin*.  
*a-Amido-n-hexoic acid*, see *Leucine*.  
*Amidol*, see *Diaminophenol hydrochloride*.  
*Amidomalonylurea*, see *Uramil*.  
*Amidomethane*, see *Methylamine*.  
Amido-oxalic acid, 1948.  
Amidophenol, 1860.  
—, cellulose acetate plasticizer, 398.  
Amidophenols, cellulose acetate hydrated in presence of, 356.  
Amidophenyl acetate, 1926.  
*p-Amidophenylamine*, cellulose acetate dyed using, 606.  
*Amidoisopropylbenzene*, see *Cumidine*.  
*Amidosuccinic acid*, see *Asparaginic acid*.  
*m-Amidosulfbenzoic acid*, 2043.  
*o-Amidosulfbenzoic acid*, 2043.  
*p-Amidosulfbenzoic acid*, 2043.  
*Amidotoluene*, see *Toluidine*.  
*Amidoxyline*, see *Xyldine*.  
Amine, 2006.  
—, aromatic, 2007.  
—, synthetic resin mfr. using, 1578.  
*b-Amine*, cellulose ether dyed using, 2254.  
Amine-furfuraldehyde, fabric coated with, 741.  
—, gauze coated with, 741.  
—, netting coated with, 741.



- 1-Amino-4-*p*-acetamidoanilinoanthraquinone-2-sulfonic acid, cellulose ether dyed using, 2274.
- Aminoacetanilid, cellulose acetate dyed using, 265.
- , cellulose ether dyed using, 265.
- , ethylcellulose dyed using, 265.
- , *see also* *Acetyl-phenylenediamine (p)*.
- p*-Aminoacetanilid, 2020, 2021, 2249.
- , cellulose acetate dyed using, 265, 792, 809, 845, 1010.
- , cellulose ether dyed using, 265, 2254, 2260, 2277.
- , diazotized, cellulose ester dyed with, 157.
- , —, cellulose ether dyed with, 120, 157, 2255.
- , ethylcellulose dyed using, 265.
- , hydrolyzed, 129.
- , —, cellulose ether dyed using, 2274.
- , lacquer containing, 2397.
- 4-Aminoacetanilid-3-sulfonic acid, cellulose ether dyed using, 2262.
- Aminoacetic acid, 1645, 1748.
- , cellulose acetate printing using, 608.
- , delustring by, 2345.
- , pattern effects on cellulose acetate by, 774.
- 1-Amino-4-*p*-acetylaminobenzidine anthraquinone, cellulose ester dyed with, 198.
- , cellulose ether dyed with, 198.
- 1-Amino-*p*-acetylaminobenzidine anthraquinone, cellulose ether dyed using, 2264.
- Aminoacetyl-paraphenetidine, see Phenocoll.*
- Aminoacridine, cellulose acetate dyed using, 673.
- 2-Amino-5-acylaminoanthraquinone, cellulose ester dyed using, 242.
- , cellulose ether dyed using, 242.
- 4-Amino-6-acylaminoanthraquinone-di-alkyl-ether, cellulose ether dyed using, 2297.
- 4-Amino-6-acylaminoanthraquinone-di-aryl-ether, cellulose ether dyed using, 2297.
- 4-Amino-6-acylaminoanthraquinone, cellulose ether dyed using, 242.
- Aminoalcohol resins, sizing with, 2141.
- Aminoalcohols, insulating using, 2438.
- Aminoaldehydes, cellulose acetate dyed using, 546.
- 4-Amino-1-alkoxymethoxybenzene, 2',3'-hydroxynaphthoyl-4-amino-1,2-dimethoxybenzene made from, 281.
- Aminoalkyl-2-aminonaphthalene, cellulose ether dyed using, 2259.
- 2-Aminoalkyl-2-aminonaphthalene, cellulose acetate dyed using, 643.
- 1-Amino-2-alkylhydroxyanthraquinone, cellulose acetate dyed using, 675.
- , cellulose ether dyed using, 2261.
- 4-Amino-4'-*p*-aminoanilino-5-methoxy-2-methylazobenzene, 1086.
- 1-Amino-4(4'-aminophenylamino)anthraquinone, cellulose ether dyed using, 2251.
- 1-Amino-4-anilinoanthraquinone, cellulose ester dyed with, 198.
- , cellulose ether dyed with, 198, 2264.
- 1-Amino-4-anilinoanthraquinone-2-glycerol ether, cellulose ether dyed using, 2265.
- 1-Amino-4-anilinoanthraquinone-3-sulfonic acid, cellulose ether dyed using, 2274.
- , sulfonated, cellulose ether dyed using, 298.
- Aminoanisole, 2019.
- b*-Aminoanthracene, *see Anthramine (b)*.
- Aminoanthraquinone, 2221, 2633, 2634.
- , acetylated, discharging with, 853, 2347.
- , cellulose acetate dyed with, 492, 674, 718, 751, 780, 879.
- , cellulose dyed with, 196.
- , cellulose ester dyed using, 264.
- , cellulose ether, non-acidylated, dyed using, 2264.
- , cellulose ether dyed using, 264, 2244, 2253, 2266, 2269, 2271, 2278.
- , discharge effect produced by, 219.
- , dispersing agent for, 2213.
- , dyeing with, 196.
- , ethylcellulose dyed using, 2229.
- , hydroxyalkylated, cellulose ether dyed using, 2246.
- , —, mfr., 676.
- , methyl sulfate in mfr. of, 1264.
- , printing fabric with, 1000.

*Aminoanthraquinone, see also Monoaminoanthraquinone.*

*a*-Aminoanthraquinone, 2221.

—, cellulose acetate dyed using, 612.

—, cellulose ester dyed with, 197.

—, cellulose ether dyed with, 197, 2258.

*b*-Aminoanthraquinone, 2221.

1-Aminoanthraquinone, amines solvent for, 2008.

—, cellulose acetate dyed using, 493, 551, 643, 819.

—, cellulose ether dyed using, 181, 2271.

2-Aminoanthraquinone, cellulose acetate dyed with, 551, 857, 858, 2245.

—, cellulose ether dyed using, 2279.

1-Aminoanthraquinone-2-carboxylic amide, cellulose acetate dyed using, 2247.

—, cellulose ester dyed using, 285.

—, cellulose ether dyed using, 285.

Aminoanthraquinonecarboxylic acid, 2634.

Aminoanthraquinonecarboxylic amides, cellulose acetate dyed using, 2247.

Aminoanthraquinone colors, cellulose ether dyed using, 2259.

Aminoanthraquinone-*N*-methylsulfonic acid, cellulose ether dyed using, 2275.

2-Aminoanthraquinone-9.10-di sulfuric ester, 1087.

*b*-Aminoanthraquinone-*N*-methyl sulfonic acid, cellulose ether dyed using, 112.

—, ethylcellulose dyed by, 112.

Aminoanthraquinone sulfonate, cellulose ester colored with, 251.

—, cellulose ether colored with, 251.

Aminoanthraquinonesulfonic acid, cellulose ether dyed using, 298, 2274.

*o*-Aminoanthraquinone sulfonic acid, cellulose ether dyed by, 111, 2275.

1-Aminoanthraquinone-2-sulfonic acid, cellulose ether dyed using, 2275.

1-Aminoanthraquinone-5-sulfonic acid, cellulose ether dyed using, 2274.

—, sulfonated, cellulose ether dyed using, 298.

2-Aminoanthraquinone-1-sulfonic acid, cellulose ether dyed using, 2275.

2-Aminoanthraquinone-3-sulfonic acid, cellulose ether dyed using, 2275.

4-Amino-1-anthraquinonyl-*b*-mercapto propionic acid, cellulose ether dyed with, 258, 2258.

1-Amino-4-arylaminoanthraquinone, cellulose ester dyed with, 197.

—, cellulose ether dyed with, 197.

4-*p*-Aminoarylazo-5.6.7.8-tetrahydronaphthylamine, cellulose acetate dyed using, 983, 2248.

Aminoarylglycol ethers, cellulose acetate dyed with diazotized, 619.

Aminoazobenzene, cellulose acetate dyed with 511, 542, 643, 649, 662, 672, 673.

—, cellulose acetate impregnated with, 360.

—, cellulose ester dyed with, 157.

—, cellulose ether dyed with, 157, 2264, 2280.

—, diazo compounds of, cellulose acetate dyed using, 504.

—, —, cellulose ether dyed using, 2280.

—, dispersing, 2209.

4-Aminoazobenzene, cellulose ester dyed with, 145.

—, cellulose ether dyed with, 145.

Aminoazobenzeneazodiphenylamine, cellulose acetate dyed using, 662.

*p*-Aminoazobenzeneazo-*b*-naphthol, cellulose acetate dyed using, 597.

*m*-Aminoazobenzoic acid, cellulose acetate dyed using, 493.

Aminoazo colors, cellulose ether dyed using, 2259.

Aminoazonaphthalene, cellulose acetate dyed using, 499.

—, tetrazo compounds of, cellulose acetate dyed using, 504.

1-Aminoazonaphthalene, cellulose ester dyed with, 157.

—, cellulose ether dyed with, 157, 2264.

Aminoazonaphthols, tetrazo compounds of, cellulose acetate dyed using, 504.

Aminoazonaphthylamines, tetrazo compounds of, cellulose acetate dyed using, 504.

Aminoazotoluene, 1085.

- Aminoazotoluene, cellulose ether dyed using, 2288.
- , tetrazo compounds of, cellulose acetate dyed using, 504.
- m*-Aminobenzaldehyde, cellulose acetate dyed using, 546.
- p*-Aminobenzaldehyde, cellulose acetate dyed using, 546.
- Aminobenzanthrone, cellulose ether dyed using, 2253.
- Bz*-1-Aminobenzanthrone, cellulose acetate dyed using, 672.
- 3-Aminobenzanthrone, cellulose acetate dyed using, 672.
- Amino-benzene*; *Phenyl-amine*, see *Aniline*.
- Aminobenzeneazo-2,4-diaminophenylmethanesulfonic acid, cellulose ester dyed with, 157.
- , cellulose ether dyed with, 157, 2264.
- Aminobenzeneazodiphenylamine, cellulose ether dyed using, 2280.
- p*-Aminobenzeneazo-*b*-naphthol, cellulose ether dyed using, 2253.
- p*-Aminobenzeneazonaphthylamine, cellulose ether dyed using, 2323.
- p*-Aminobenzeneazo-*a*-naphthylamine, cellulose acetate dyed using, 966.
- , developer, 2346.
- p*-Aminobenzeneazo-1-phenyl-3-methyl-5-pyrazolone, cellulose ether dyed using, 2255.
- p*-Aminobenzenesalicyclic acid, cellulose acetate dyed using, 674.
- , cellulose ether dyed using, 2265.
- p*-Aminobenzeneazo-*p*-sulfatoethyl-aniline, cellulose acetate dyed using, 611.
- 4-Aminobenzene-1-sulfamide, cellulose ether dyed with, 67, 276.
- , diazotized, cellulose ether dyed using, 2278.
- m*-Aminobenzenesulfonanilide, cellulose ether dyed using, 2273.
- , cellulose ether dyed with diazotized, 117.
- Aminobenzene sulfonic acid (p)*, see *Sulfanilic acid*.
- m*-Aminobenzenesulfonic acid ethyl phenylamide, cellulose acetate dyed using, 2246.
- m*-Aminobenzenesulfonic acid methyl phenylamide, cellulose acetate dyed using, 2246.
- m*-Aminobenzene-2-sulfonic acid methylphenyl amide, cellulose acetate dyed using, 881.
- m*-Aminobenzene-2-sulfonic acid *o*-tolylamide, cellulose acetate dyed using, 881.
- m*-Aminobenzenesulfon-*m*-nitranilid, cellulose ether dyed using, 117.
- , diazotized, cellulose ether dyed using, 2273.
- Aminobenzoic acid, 993.
- , cellulose acetate dyed using, 493.
- , cellulose ether dyed using, 2257, 2282.
- m*-Aminobenzoic acid, cellulose acetate dyed using, 2272.
- o*-Aminobenzoic acid, 1894.
- p*-Aminobenzoic acid, amines solvent for, 2008.
- , cellulose acetate dyed using, 653.
- , cellulose ether dyed using, 2264.
- Aminobenzoic acid ester, butylcellulose and, 1341.
- , lacquer containing, 2416.
- Aminobenzo-quinone, cellulose ester dyed with, 180.
- , cellulose ether dyed with, 180.
- 2-Amino-5-benzoylaminohydroquinonedimethyl ether, cellulose ether dyed using, 2297.
- 2-Amino-5-benzoylaminohydroquinonedimethyl ether, cellulose ether dyed using, 2297.
- 4-Amino-6-benzoylaminoresorcin-diethyl ether, cellulose ether dyed using, 2297.
- 4-Amino-6-benzoylaminoresorcin-di-methyl ether, cellulose ether dyed using, 2297.
- Aminobenzoylcellulose, mfr. of, 253.
- m*-Aminobenzyl alcohol, 2249.
- , cellulose acetate dyed using, 1010.
- Aminobenzylcellulose, diazotizable, 1596.
- , mfr., 1596.
- p*-Aminobenzylcellulose, mfr., 1598.
- 4-Aminobenzylsulfonic acid, cellulose ether dyed using, 2256.
- 4-Aminobenzyl-*w*-sulfonic acid, cellulose ether dyed using, 275.
- 1-Amino-4-bromanthraquinone-2-sulfonic acid, cellulose ether dyed using, 2275.
- 1-Amino-2-brom-4-toluidanthraquinone, cellulose ether dyed with, 65.

- 1-Amino-2-brom-4-*p*-toluidioanthraquinone, ethylcellulose dyed using, 2229.
- Aminocellulose, 1751, 1752.
- , mfr. of, 123, 253, 278.
- Aminocellulose acetate, 123.
- Aminocellulose benzoate, 1751.
- 1-Amino-5-chloranthraquinone, cellulose acetate dyed with, 551.
- , cellulose ether dyed using, 2280.
- m*-Aminochlorbenzene, 1085.
- 1-Amino-2-chlorbenzene-5-sulfanilic acid, cellulose ether dyed using, 2277.
- 2-Amino-5-*p*'-chlorbenzoylaminohydroquinonedimethyl ether, cellulose ether dyed using, 2297.
- 2-Amino-5-*p*'-chlorbenzoylaminohydroquinonedimethyl ether, cellulose ether dyed using, 2297.
- m*-Amino-*p*-cresol, cellulose ether dyed using, 120.
- Aminocresol ether, cellulose ether dyed with, 67, 276, 2278.
- m*-Amino-*p*-cresol methyl ether, cellulose acetate dyed using, 844, 845.
- , cellulose ether dyed using, 2273.
- , *see also Cresidine*.
- 3-Amino-4-cresol methyl ether, cellulose ether dyed with, 120.
- Aminodiaryls, cellulose ether dyed using, 2269.
- 1-Amino-2,4-dibromanthraquinone, cellulose acetate dyed with, 551.
- , cellulose ether dyed using, 2280.
- 1-Amino-4-dihydroglyoxalanthraquinone-2-sulfonic acid, cellulose ether dyed using, 2275.
- 1-Amino-2,4-dimethoxy-anthraquinone, cellulose acetate dyed using, 1085.
- 4-Amino-1,2-dimethoxy-anthraquinone, cellulose acetate dyed using, 1085.
- 4-Amino-4'-dimethylaminoazobenzene, cellulose acetate dyed using, 937.
- , cellulose ether dyed using, 2254.
- Aminodimethylaniline, diazo compounds of, cellulose acetate dyed using, 504.
- p*-Aminodimethylaniline, cellulose acetate dyed using, 265, 881.
- , cellulose ester dyed using, 264.
- p*-Aminodimethylaniline, cellulose ether dyed using, 264, 265, 2244, 2263.
- , ethylcellulose dyed using, 265.
- 4'-Amino-2,4-dinitrodiphenylamine, cellulose acetate dyed with, 543.
- p*-Aminodiphenylamine, 137, 157, 2347.
- , cellulose acetate dyed using, 715, 745, 749, 904, 2272.
- , cellulose ester dyed with, 121, 212, 241.
- , cellulose ester dyed black with, 180, 267.
- , cellulose ether dyed using, 121, 212, 241, 2256, 2284, 2301, 2302, 2304, 2305, 2306.
- , cellulose ether dyed black with, 180, 267.
- , cotton dyed black with, 180, 267.
- , diazotized light-sensitive films made using, 2533.
- , feathers dyed using, 715.
- , filament, cellulose acetate dyed black with, 180.
- , fur dyed using, 715.
- , methylcellulose clarified with, 209.
- , pattern effect using, 2344.
- , skins dyed using, 715.
- , viscose silk dyed black with, 180.
- , wool dyed black with, 180.
- 4-Aminodiphenylamine-4'-methyl-2-sulfonate, cellulose ester dyed using, 212.
- , cellulose ether dyed using, 212.
- 4-Aminodiphenyl-sulfide-4'-oxamic acid, cellulose ether dyed using, 2259.
- Aminoethane*, *see Ethylamine*.
- Aminoethane acid*, *see Glycine*.
- 4-Amino-4'-ethoxydiphenylamine, diazotized, film, colored, made using, 2532.
- 1-Amino-2-ethoxynaphthalene, cellulose ether dyed using, 2268.
- b*-Aminoethyl alcohol, aminoanthraquinone, hydroxyalkylated, made using, 676.
- , cellulose ether dyed using, 2246, 2267.
- Aminoethylamide oleate, insulating using, 2438.
- Aminoethylamine oleate, 2384.
- , electrical discharge in fibers prevented by, 215.

- Aminoethylcellulose acetate, 1665.  
1-Amino-4-ethyl-thiolanthraquinone, cellulose ester dyed with, 195.  
—, cellulose ether dyed with, 195.  
1-Amino-4-hexahydroanilinoanthraquinone, cellulose acetate dyed using, 1025.  
1-Amino-4-hexahydroanilidoanthraquinone-2-glycol ether, cellulose ether dyed using, 2265.  
Aminohydroquinonedimethyl ether, cellulose acetate dyed using, 809, 2272.  
Aminohydroxyanthrahydroquinone sulfuric ester, 1087.  
Amino-*b*-hydroxyanthraquinones, alkyl ethers of, mfr., 1084.  
1.4-Aminohydroxyanthraquinone, cellulose acetate dyed using, 2246.  
—, cellulose ether dyed using, 199, 2251.  
—, monosulfonated, cellulose acetate dyed using, 643.  
1-Amino-4-hydroxyanthraquinone, cellulose acetate dyed using, 493, 718, 925.  
—, cellulose ether dyed using, 2262, 2271, 2281.  
—, printing fabric with, 1000.  
Aminohydroxyanthraquinone, sulfonate, cellulose acetate dyed using, 859.  
Aminohydroxyanthraquinone sulfonic acid, cellulose ether dyed using, 2258.  
1-Amino-4-hydroxyanthraquinone-5-sulfonic acid, sulfonated, cellulose ether dyed using, 298.  
4-Amino-4'-hydroxydiphenylamine, cellulose acetate dyed using, 592.  
—, cellulose ether dyed using, 2285.  
4'-Amino-4-hydroxydiphenylamine, cellulose acetate dyed using, 723.  
1-Amino-7-hydroxynaphthalene, cellulose acetate dyed using, 722.  
1-Amino-8-hydroxynaphthalene, cellulose acetate dyed using, 975.  
—, cellulose ester dyed using, 240.  
—, cellulose ether dyed with, 168, 240.  
2-Amino-7-hydroxynaphthalene, cellulose acetate dyed using, 722.  
2-Amino-5-hydroxynaphthalene-7-sulfonic acid, cellulose ether dyed using, 2251.  
Amino-*b*-ketoacidylamino-azo compound, cellulose ether dyed with diazotized, 138.  
Amino-*b*-ketoacidylamino compound, cellulose ether dyed with diazotized, 138.  
1-Amino-2-methoxy-anthraquinone, cellulose acetate dyed using, 1085.  
1-Amino-4-methoxyanthraquinone, cellulose ether dyed using, 2267.  
2-Amino-3-methoxy-anthraquinone, cellulose acetate dyed using, 1085.  
1-Amino-2-methoxynaphthalene, cellulose acetate dyed using, 751.  
1-Amino-4-methylaminoanthraquinone, cellulose ether dyed using, 2269, 2323.  
Aminomethylaniline, diazo compounds of, cellulose acetate dyed using, 504.  
—, —, cellulose ether dyed using, 2280.  
*p*-Aminomethylaniline, dispersing, 2209.  
1-Amino-2-methylanthraquinone, 219, 2319.  
—, cellulose acetate dyed with, 551.  
—, cellulose ether dyed using, 181, 2268, 2279.  
—, printing fabric with, 1000.  
Aminomethylbenzylcellulose, mfr., 1598.  
3-Amino-4-methyl-1-hydroxybenzene, cellulose ether dyed using, 2261.  
Aminomonocarboxylic acid, diazotized, cellulose ether dyed using, 2262.  
4-Amino-1-monoethylamino-2-toluene, diazotized, boron trifluoride compound of, 1005.  
Aminomonosulfonic acid, diazotized, cellulose ether dyed using, 2262.  
4-Amino-1.8-naphthalate, cellulose dyed with, 196.  
—, dyeing with, 196.  
4-Amino-1.8-naphthalate-ethylimide, cellulose dyed with, 196.  
—, dyeing with, 196.  
4-Amino-1.8-naphthalate-2'-methylphenylimide, cellulose dyed with, 196.  
—, dyeing with, 196.  
1-Amino-naphthaleneazo-2.4-diaminophenylmethanesulfonic acid, cellulose ester dyed with, 157.

- 1-Amino-naphthaleneazo-2,4-diaminophenylmethanesulfonic acid, cellulose ether dyed with, 157, 2264.
- Aminonaphthalenesulfonic acid, tannin made with, 1427.
- Aminonaphthalenesulfonic acid, formaldehyde condensate, 2034.
- 4-Amino-1,8-naphthalic acid, cellulose ether dyed using, 2295.
- 4-Amino-1,8-naphthalic acid anhydride, cellulose ether dyed using, 2295.
- 4-Amino-1,8-naphthalic anhydride, aniline combined with, 305.
  - , cellulose ester dyed using, 280.
  - , cellulose ether dyed using, 280, 2283.
  - , cyclohexylamine combined with, 305.
  - , dimethylaminobenzene combined with, 305.
  - , methylamine combined with, 305.
  - , methylaminobenzene combined with, 305.
- 4-Amino-1-naphthalic imide, cellulose ether dyed using, 2283.
- 4-Amino-1,8-naphthalic imide sulfamate, cellulose ester dye, 305.
  - , cellulose ether dye, 305.
- 4-Aminonaphthalimide, cellulose ester dyed using, 243.
  - , cellulose ether dyed using, 243.
- 4-Amino-1,8-naphthalimide, cellulose ester dyed with, 195.
  - , cellulose ether dyed with, 195, 2283, 2295.
- Aminonaphthaphenazine, desulfonated, cellulose acetate dyed using, 881, 2247.
- Aminonaphthoic acid, cellulose acetate dyed using, 675.
  - , cellulose ether dyed using, 2261.
  - , diazotized, cellulose ether dyed using, 2261.
- 2-Amino-6-naphthoic acid, cellulose ether dyed with, 156.
- 2,3-Aminonaphthoic acid, cellulose acetate dyed using, 675, 750, 809.
  - , cellulose ether dyed using, 2268, 2275.
- 2,6-Aminonaphthoic acid, cellulose acetate dyed using, 675.
  - , cellulose ether dyed using, 2261.
- Aminonaphthol, cellulose acetate combined with, 533.
- Aminonaphthol, cellulose ether dyed using, 2262, 2265, 2267, 2268, 2284, 2300.
  - , cellulose ether solvent, 106.
- 1,2-Aminonaphthol ether, cellulose acetate dyed using, 2272.
- 1,4-Aminonaphthol, cellulose ether dyed using, 2265.
- 1,5-Aminonaphthol, cellulose ester dyed black using, 210.
  - , cellulose ether dyed black using, 210.
  - , cellulose ether dyed with, 168, 2262.
- 1,6-Aminonaphthol, cellulose ether dyed with, 168, 2262.
- 1,7-Aminonaphthol, cellulose acetate dyed using, 546, 674.
  - , cellulose ether dyed using, 2277.
- 1,8-Aminonaphthol, cellulose ether dyed with, 168, 2262, 2268.
- 2,7-Aminonaphthol, cellulose acetate dyed using, 674.
  - , cellulose ether dyed using, 2265, 2277.
- 2,8-Aminonaphthol, cellulose ether dyed with, 168, 2262.
- 1,8-Aminonaphthol-2,4-disulfonic acid, cellulose ester dyed using, 290.
  - , cellulose ether dyed using, 290.
  - , lacquer colorant, 2421.
- 1,8-Aminonaphthol-3,6-disulfonic acid, light-sensitive films made using, 2533.
  - , methylcellulose clarified with, 209.
- 1,2-Amino-naphthol ethyl ether, cellulose acetate dyed using, 750.
- Aminonaphtholsulfonic acid, cellulose acetate dyed using, 610.
  - , printing cellulose ether using, 2323.
- 1-Amino-2-naphthol-4-sulfonic acid, diazotized, plastic made using, 2573.
- 2-Amino-5-naphthol-7-sulfonic acid, cellulose acetate dyed using, 845.
- 2-Amino-8-naphthol-6-sulfonic acid, cellulose ether dyed using, 2259.
- Aminonaphtho-quinone, cellulose ester dyed with, 180.
  - , cellulose ether dyed with, 180.
- 1-Amino-4-b-naphthylaminoanthraquinone, cellulose ester dyed with, 198.

- 1-Amino-4-*b*-naphthylaminoanthraquinone, cellulose ether dyed with, 198, 2264.
- 1-Amino-2-naphthylethylether cellulose acetate dyed using, 610.
- 1-Amino-4-nitroanthraquinone, 2634.
- , cellulose acetate dyed using, 718.
- , diazotized, cellulose ether dyed using, 2274.
- Amino-oxyanthraquinone, cellulose ether dyed using, 2260.
- 1-Amino-4-oxy-anthraquinone, 2319.
- Amino-oxynaphthalenesulfonic acid, tannin made with, 1427.
- 2-Amino-6-oxypurin, 2614.
- Aminophenol, cellulose acetate acetylated in presence of, 1055.
- , cellulose acetate combined with, 533.
- , cellulose acetate plastifier, 340.
- , cellulose ether solvent, 106.
- , cellulose xanthofatty acid treated with, 124.
- , diazotized, dye made using, 2641.
- , ethyl ethers of, cellulose ether dyed using, 2264.
- , horn, artificial, made using, 2607.
- , *b*-hydroxyethyl ethers of, cellulose acetate dyed using, 764.
- , —, cellulose ether dyed using, 2277.
- m*-Aminophenol, amines solvent for, 2008.
- o*-Aminophenol, amines solvent, 2008.
- p*-Aminophenol, cellulose acetate dyed using, 265, 606, 751, 904.
- , cellulose acetate impregnated with, 360.
- , cellulose ether dyed using, 265, 2263, 2282, 2302.
- , dye made using, 2641.
- 1.8-Aminophenol, cellulose ether dyed using, 2262.
- o*-Aminophenol ether, cellulose ether dyed with, 120.
- Aminophenol *p*-toluenesulfonate, cellulose ether dyed using, 2251.
- o*-Aminophenol *p*-toluenesulfonate, 1088.
- , cellulose acetate dyed using, 831.
- p*-Aminophenoxyacetic acid, cellulose acetate dyed, 547, 673.
- , cellulose ether dyed using, 2264.
- 2-(4-Aminophenylamino)-6-(4-aminophenylamino)-naphthalene chloride, cellulose ether dyed using, 2301.
- 2-(4-Aminophenylamino)-7-(4-aminophenylamino)-naphthalene chloride, cellulose acetate dyed using, 917.
- , cellulose ether dyed using, 2301.
- 2-(4-Amino-phenylamino)-6-hydroxynaphthalene chloride, cellulose ether dyed using, 2301.
- 2-(*p*-Aminophenylamino)-1.4-naphthoquinone, cellulose ether dyed with, 181.
- p*-Aminophenyl-1.4-naphthoquinone monoimide, cellulose ether dyed using, 2270.
- m*-Aminophenyloxamic acid, cellulose acetate dyed using, 597.
- , cellulose ether dyed using, 2279.
- p*-Aminophenylsulfamic acid, cellulose acetate dyed using, 494.
- , cellulose ether dyed using, 2276.
- 4-*p*-Aminophenylthiolphenyloxamic acid, cellulose acetate dyed using, 883.
- , cellulose ether dyed using, 2259.
- o*-Aminophenyltoluene-*p*-sulfonate, 2249.
- , cellulose acetate dyed using, 1010.
- 1-Amino-2-isopropylthiolanthraquinone, cellulose dyed with, 196.
- , dyeing with, 196.
- Aminopyridine, cellulose acetate dyed using, 2235.
- , cellulose ether dyeing using, 2237.
- Aminoquinonedimethyl ether, cellulose ether dyed using, 2275.
- 4 - Amino - 6 - resorcinol dimethyl ether, cellulose ether dyed using, 242.
- Aminosalicylic acid, diazotized, diazotypes made using, 2534.
- , —, negative diazotypes made using, 2534.
- p*-Aminosalicylic acid, cellulose acetate dyed using, 2272.
- Aminostilbene, cellulose acetate dyed using, 606.
- Aminostilbeneazo-*m*-phenylenedia-

- mine, cellulose ether dyed using, 2254.
- Aminostilbeneazo-*m*-toluidine, cellulose ether dyed using, 2254.
- Aminosulfonic acid, 1596.
- , amines solvent for, 2008.
- a*-Aminotetrahydronaphthalene, cellulose ether dyed using, 2278.
- 1-Amino-4-thioanthraquinone-2-sulfonic acid, cellulose ether dyed using, 2275.
- Amino-toluene*, see *Toluidine*.
- Aminotoluenesulfochloride, 1686.
- 1-Amino-4-*p*-toluenesulfonamidoanthraquinone-4-aminoamide, cellulose acetate dyed using, 2247.
- 1-Amino-4-*p*-toluenesulfonamidoanthraquinone-2-carboxyl-amide, cellulose acetate dyed using, 2247.
- 1-Amino-4-*p*-toluenesulfonamidoanthraquinone-2-carboxyl-amide, cellulose acetate dyed using, 2247.
- 1-Amino-4-*p*-toluidinoanthraquinone, cellulose acetate dyed using, 612.
- , cellulose ether dyed using, 2264, 2273.
- 1-Amino-5-*p*-toluidinoanthraquinone, cellulose acetate dyed using, 612.
- , cellulose ether dyed using, 2275.
- 1-Amino-4-*p*-toluidinoanthraquinone, cellulose ester dyed with, 198.
- , cellulose ether dyed with, 198.
- 1-Amino-4-*p*-tolylimino-*b*-naphthol, cellulose acetate dyed using, 751.
- Aminoxanthen, diazotized, cellulose ether dyed with, 179, 2288.
- Ammonia, absorbent, peat for, 1165.
- , anhydrous, cellulose acetate solvent, 509, 566.
- , benzylcellulose viscosity reduced by, 140.
- , cellulose acetate delustred by, 828.
- , cellulose acetate dyed in presence of, 511, 686.
- , cellulose acetate hydrolyzed by, 420.
- , cellulose acetate saponified by, 1007.
- , cellulose compounds of, 89.
- , cellulose dixanthtate combined with, 148.
- , cellulose ether solvent, 1798.
- Ammonia, cellulose nitrate viscosity reduced by, 918.
- , cellulose purified by, 1411.
- , cellulose xanthate combined with, 148.
- , hydrolyzing cellulose acetate with, 421.
- , liquid, cellulose acetate solvent, 620.
- , —, cellulose nitrate solvent, 620.
- , mordanting cellulose ether with, 226.
- , neutralizant in cellulose acetation, 327.
- , solubility organic compounds in, 2007.
- , starch xanthate combined with, 148.
- , see also *Ammonium hydroxide*.
- Ammonia alum, ethyl acetate made using, 687.
- Ammoniacal copper, cellulose acetate delustred by, 776.
- Ammoniacal copper solution, cellulose ether swelling agent, 254.
- Ammoniacal cuprous oxide*, see *Cuprammonium oxide*.
- Ammoniated ethylic aldehyde*, see *Aldehydeammonia*.
- Ammonia sulfate of iron*, see *Iron ammonium sulfate*.
- Ammonium abietate, sizing with, 2141.
- Ammonium acetate, 1353.
- , benzylcellulose dyed using, 123.
- , cellulose acetate dyed using, 672.
- , cellulose acetate luster modified by, 609.
- , cellulose ether dyed using, 2301.
- , delustring with, 210.
- , film, non-static, made using, 661, 703.
- , sheen of cellulose acetate augmented by formaldehyde and, 679.
- Ammonium aceto-hydrogen-succinate, mfr., 2641.
- Ammonium alginate, 1072.
- , filament sized with, 1071.
- Ammonium aluminum fluoride, coating, fire-resistant, containing, 687.
- Ammonium aniline-4-sulfonic acid-azo-*a*-diketohydrindene, cellulose ether dyed using, 2262.
- Ammonium bases, cellulose solvent, 91.



- Ammonium benzoate, amines solvent, 2008.  
Ammonium bichromate, cellulose formate solvent, 388, 463.  
Ammonium bisulfate, catalyst in cellulose acetating, 403.  
Ammonium borate, 2059.  
—, sheen of cellulose acetate augmented by formaldehyde and, 679.  
Ammonium bromide, benzylcellulose nitrate inflammability reduced by, 177.  
—, benzylcellulose treated with, 1561.  
—, cellulose acetate preserved by, 714.  
—, cellulose formate solvent, 463.  
—, ethylcellulose nitrate inflammability reduced by, 177.  
—, inflammability reduced by, 2527.  
—, luster of cellulose acetate preserved by, 632.  
—, luster preserved by, 2172, 2173.  
—, methylcellulose nitrate inflammability reduced by, 177.  
Ammonium carbonate, 2059.  
Ammonium caseinate, 2057.  
—, concrete foam for, 1002.  
Ammonium cellulose aceto-hydrogen-phthalate, mfr., 2641.  
Ammonium cellulose glycollate, 1754.  
Ammonium cellulose phthalate, mfr., 2641.  
Ammonium cetyl xanthate, 1076.  
Ammonium chlorate, cellulose acetate dyed using, 531.  
—, cellulose ether dyeing assistant, 2222.  
—, printing using, 2326.  
Ammonium chloride, 2059.  
—, acetic anhydride made using, 770, 865.  
—, benzylcellulose dyed using, 123.  
—, benzylcellulose treated with, 1561.  
—, benzylchloride made using, 1293.  
—, catalyst in cellulose acetate mfr., 412, 465.  
—, cellulose acetate luster modified by, 609.  
—, cellulose acetate preserved by, 714.  
—, cellulose acetate relustred by, 608.  
Ammonium chloride, cellulose ether spinning bath containing, 2082.  
—, cellulose formate solvent, 463.  
—, cellulose glycollic acid precipitant, 89.  
—, cellulose lactic acid precipitant, 89.  
—, cellulose treated with, 1137.  
—, fabric tautness induced by, 460.  
—, inflammability reduced by, 2527.  
—, luster of cellulose acetate preserved by, 632.  
—, luster preserved by, 2172, 2173.  
—, relustring with, 216.  
—, spinning in presence of, 1070.  
Ammonium chromate, benzylcellulose treated with, 1561.  
—, cellulose acetate luster modified by, 609.  
Ammonium citrate, amines solvent for, 2008.  
—, cellulose nitrate solvent, 1893.  
—, flax purified by, 1179.  
—, scoop imparted by, 2203.  
—, sheen of cellulose acetate augmented by formaldehyde and, 679.  
Ammonium cupric oxide, cellulose oxidized by, 12.  
Ammonium cyanate, cellulose ester swelled by, 131.  
—, cellulose ether softener, 2217.  
—, cellulose ether solvent, 141.  
—, cellulose ether swelled by, 131.  
Ammonium 2,6-dinitraniline-4-sulfonate, cellulose ether dyed by, 111, 2276.  
Ammonium 2,6-dinitraniline-6-sulfonate, cellulose ether dyed by, 111.  
Ammonium fatty sulfonate, softener, 2216.  
Ammonium fluoride, inflammability reduced by, 2527.  
Ammonium formate, 2447.  
—, cellulose acetate dyed using, 672.  
—, formic acid made using, 494, 829.  
—, sheen of cellulose acetate augmented by formaldehyde and, 679.  
Ammonium hydrogen phosphate, acetic anhydride mfr. using, 1049.  
Ammonium hydroxide, 2059.  
—, benzylcellulose viscosity reduced by, 140, 1558.  
—, cellulose acetate delustred using, 1013.

- Ammonium hydroxide, cellulose acetate saponified by, 850.  
—, cellulose mercerized by, 9.  
—, cellulose purified by, 1412.  
—, delustring with, 2192.  
Ammonium hyposulfite, cellulose acetate emulsion containing, 128.  
—, cellulose ether emulsion containing, 128.  
Ammonium iodide, film, non-static, made using, 661.  
Ammonium isocyanate, cellulose ether softener, 2217.  
—, cellulose ether solvent, 141.  
Ammonium isothiocyanate, cellulose ester swelled by, 131.  
—, cellulose ether softener, 2217.  
—, cellulose ether solvent, 141.  
—, cellulose ether swelled by, 131.  
Ammonium lactate, cellulose nitrate solvent, 1893.  
—, sheen of cellulose acetate augmented by formaldehyde and, 679.  
Ammonium levulinate, cellulose nitrate solvent, 1893.  
Ammonium magnesium, catalyst in cellulose acetating, 354.  
Ammonium magnesium arsenate, cellulose acetate fireproofed by, 528.  
Ammonium magnesium phosphate, cellulose acetate fireproofed by, 528.  
—, fire retardant in lacquer, 479.  
—, inflammability reduced by, 583.  
Ammonium manganese arsenate, cellulose acetate fireproofed by, 528.  
—, fire retardant in lacquer, 479.  
Ammonium manganese phosphate, cellulose acetate fireproofed by, 528.  
—, fire retardant in lacquer, 479.  
Ammonium molybdate, catalyst in acetaldehyde mfr., 1017.  
—, catalyst in acetic acid mfr., 1017.  
Ammonium naphthenate, benzene solvent of, 107.  
—, silk sized using, 259.  
—, size containing, 2309.  
—, sizing with, 107, 2141.  
—, solubilizing agent, 2212.  
—, toluene solvent of, 107.  
—, turpentine oil solvent of, 107.  
—, xylene solvent of, 107.  
Ammonium nitrate, 1564, 1696, 2080.  
—, acetating in presence of, 359.  
—, catalyst in cellulose acetate mfr., 465.  
—, cellulose acetated in presence of, 368.  
—, cellulose acetate dyed using, 531.  
—, cellulose acetate luster modified by, 609.  
—, cellulose acetate precipitant, 49, 784, 785.  
—, cellulose acetate solubility modified by, 1059.  
—, cellulose acetate nitrate made using, 783, 979, 1063.  
—, cellulose ether coagulant, 1589.  
—, cellulose ether dyeing assistant, 2222.  
—, cellulose ether precipitant, 49, 2086.  
—, cellulose ether spinning bath containing, 2082.  
—, cellulose formate solvent, 388, 463, 1799.  
—, film, non-static, made using, 661.  
Ammonium 5-nitro-2-aminobenzylsulfonate, cellulose ether dyed using, 2258.  
Ammonium 5-nitro-2-aminobenzyl-*w*-sulfonate, cellulose ether dyed using, 275.  
Ammonium oleate, alcohol solidified using, 486.  
—, cellulose ester coagulated by, 133.  
—, cellulose ether coagulated by, 133.  
—, cellulose ether emulsifier, 2083.  
—, filament cleaned by, 257.  
—, film cleaned by, 257.  
—, ribbon cleaned by, 257.  
—, silk sized using, 259.  
—, size containing, 2309.  
—, solubilizing agent, 2211.  
—, thread cleaned by, 257.  
—, wetting agent, 2207.  
Ammonium oxalate, benzylcellulose treated with, 1561.  
—, cellulose acetate luster modified by, 609.  
—, cellulose nitrate solvent, 1893.  
—, fabric printing using, 279.  
—, flax extracted with, 1178.

- Ammonium oxalate, flax purified by, 1179.  
—, printing using, 2326.  
—, scroop imparted by, 2203.  
—, sheen of cellulose acetate augmented by formaldehyde and, 679.  
Ammonium palmitate, cellulose ester coagulated by, 133.  
—, cellulose ether coagulated by, 133.  
—, cellulose ether emulsified, 2083.  
—, solubilizing agent, 2211.  
Ammonium perchlorate, bleaching cellulose by, 1411.  
—, cellulose purified by, 1411.  
Ammonium persulfate, cellulose oxidized with, 1140.  
Ammonium phosphate, 2059.  
—, acetic anhydride made using, 770, 865.  
—, benzylcellulose and, 1568.  
—, benzylcellulose nitrate inflammability reduced by, 177.  
—, benzylcellulose treated with, 1561.  
—, cellulose acetate fire-retardant, 497.  
—, cellulose acetate identified using, 730.  
—, coating, fire-resistant, containing, 687.  
—, ethylcellulose nitrate inflammability reduced by, 177.  
—, fire-retardant, 1568.  
—, fire-retardant in lacquer, 479.  
—, flax purified by, 1179.  
—, inflammability reduced by, 583, 2527.  
—, methylcellulose nitrate inflammability reduced by, 177.  
—, sheen of cellulose acetate augmented by formaldehyde and, 679.  
*Ammonium purpurate, see Muroxide.*  
Ammonium resinate, benzene solvent of, 107.  
—, size containing, 2309.  
—, sizing with, 107, 2141.  
—, solubilizing agent, 2211.  
—, toluene solvent of, 107.  
—, turpentine oil solvent of, 107.  
—, xylene solvent of, 107.  
Ammonium ricinoleate, cellulose ether emulsifier, 2083.  
—, solubilizing agent, 2219.  
Ammonium ricinoleate, wetting agent, 2207.  
Ammonium reinsulfonate, cellulose ether precipitant, 2086.  
Ammonium silicate, sheen of cellulose acetate augmented by formaldehyde and, 679.  
Ammonium stearate, cellulose ester coagulated by, 133.  
—, cellulose ether coagulated by, 133.  
—, delustring with, 2645.  
—, silk sized by, 259.  
—, size containing, 2309.  
—, solubilizing agent, 2211.  
—, wetting agent, 2207.  
Ammonium sulfate, 2059.  
—, acetaldehyde made using, 781.  
—, acetating in presence of, 359.  
—, acetic anhydride made using, 770, 865.  
—, benzylcellulose dyed using, 123, 2230.  
—, benzylcellulose treated with, 1561.  
—, catalyst in acetation, 433.  
—, catalyst in cellulose acetating, 354.  
—, cellulose acetate dyed using, 672.  
—, cellulose acetate fire-retardant, 497.  
—, cellulose acetate luster modified by, 609.  
—, cellulose acetate precipitant, 49.  
—, cellulose acetate relustered by, 608.  
—, cellulose acetonitrile made in presence of, 791.  
—, cellulose ether precipitant, 49, 2086.  
—, delustring prevented by, 999.  
—, fireproofing with, 572.  
—, flax purified by, 1179.  
—, relustring with, 216, 2199.  
Ammonium sulfate, cellulose acetate emulsion containing, 128.  
—, cellulose ether emulsion containing, 128.  
Ammonium sulfobenzenericinoleate, solubilizing agent, 2211.  
Ammonium sulfobenzenestearate, solubilizing agent, 2211.  
Ammonium sulfocyanide, cellulose ether solvent, 108.  
Ammonium sulfolaurate, softener, 2215.

- Ammonium sulfomyristate, softener, 2215.
- Ammonium sulfonaphthalene-ricinoleate, solubilizing agent, 2211.
- Ammonium sulfonaphthalenestearate, solubilizing agent, 2211.
- Ammonium sulfonaphthenate, solubilizing agent, 2212.
- Ammonium sulfo-oleate, cellulose ether dyed in presence of, 113.
- , cellulose acetate dyed in presence of, 499.
- , solubilizing dyes with, 499.
- Ammonium sulfo-oleic acid amide, cellulose ether precipitant, 2086.
- Ammonium sulfo-palmitate, cellulose ether dyed in presence of, 113.
- , cellulose ether emulsifier, 2083.
- , dyeing cellulose acetate in presence of, 499.
- , softener, 2215.
- , solubilizing dyes with, 499.
- Ammonium sulfophenolricinoleate, solubilizing agent, 2211.
- Ammonium sulfophenolstearate, solubilizing agent, 2211.
- Ammonium sulfuricinate, cellulose ether emulsifier, 2083.
- Ammonium sulfuricinoleate, cellulose acetate softener, 966.
- , cellulose ether dyed in presence of, 113.
- , cellulose ether softener, 234, 2080.
- , cellulose formate dyed using, 607.
- , cellulose propionate dyed using, 607.
- , dispersing agent, 2227.
- , dyeing cellulose acetate in presence of, 499.
- , solubilizing agent, 2211.
- , solubilizing dyes with, 499.
- Ammonium sulfo-stearate, cellulose ether dyed in presence of, 113.
- , dyeing cellulose acetate in presence of, 499.
- , solubilizing dyes with, 499.
- Ammonium *iso*-sulfocyanide, cellulose ether solvent, 108.
- Ammonium tartrate, cellulose nitrate solvent, 1893.
- , flax purified by, 1179.
- , scroop imparted by, 2203.
- , sheen of cellulose acetate augmented by formaldehyde and, 679.
- Ammonium tetraborate, fireproofing with, 2631.
- Ammonium tetrachloride, fireproofing with, 2631.
- Ammonium tetraphosphate, fireproofing with, 2631.
- Ammonium thiocyanate, 1688, 2080, 2229, 2316, 2330.
- , benzylcellulose mordanted by, 113, 1587.
- , cellulose acetate crinkled by, 500.
- , cellulose acetate delustred by, 500, 767.
- , cellulose acetate dyed using, 602.
- , cellulose acetate precipitant, 784, 785.
- , cellulose acetate precipitating bath component, 818.
- , cellulose acetate relustred by, 604, 723.
- , cellulose acetate solvent, 567.
- , cellulose acetate swelling agent, 501, 1011, 1043.
- , cellulose ether delustred with, 185.
- , cellulose ether precipitant, 2085.
- , cellulose ether softener, 2133, 2155.
- , cellulose ether solvent, 2082, 2356.
- , cellulose ether strengthened by, 2131.
- , cellulose ether swelling agent, 110.
- , cellulose formate solvent, 640.
- , cellulose swelling agent, 967.
- , delustring with, 185, 216.
- , delustring prevented by, 133, 2192.
- , discharge effects on cellulose acetate with, 613.
- , dye stripped using, 2320.
- , ethylcellulose mordanted by, 113.
- , film, non-static, made using, 661.
- , formyl nitrate solvent, 640.
- , methylcellulose for dispersing, 2478.
- , methylcellulose mordanted by, 113.
- , printing cellulose ether dyed using, 2323.

- Ammonium thiocyanate, printing using, 2326.  
—, relustring with, 2198, 2201.  
—, spinning in presence of, 1070.  
—, *see also* Ammonium sulfocyanide.  
Ammonium thiosulfate, cellulose acetate emulsion containing, 128.  
—, cellulose ether emulsion containing, 128.  
Ammonium 2,6-triaminobenzene-4-sulfonate, cellulose ether dyed by, 112.  
Ammonium vanadate, fabric printing using, 279.  
Ammonium o-vanadate, printing using, 2326.  
Ammonium zinc sulfocyanide, cellulose ether solvent, 108.  
Ammonium-zinc *iso*-sulfocyanide, cellulose ether solvent, 108.  
Ammonium zinc thiocyanate, cellulose ether solvent, 2082.  
Ampoules, mfr. of, cellulose ether in, 152, 2449.  
Amygdalin, acetic acid action on, 311.  
—, ester of, 311.  
*Amygdalinic acid*, *see* *Amygdalic acid*.  
*Amyl*, *see also* *Monamyl*, *Diamyl*, *Triamyl*.  
Amyl abietate, 1954, 2053.  
*iso*-Amyl abietate, mfr., 884.  
Amylacetanilid, 2023, 2026.  
Amyl acetate, 70, 1091, 1315, 1652, 1746, 1769, 1849, 1852, 1943, 1944, 1956, 1962, 1969, 2007, 2027, 2388.  
—, acetic acid extracted with, 716, 830, 1045.  
—, acetic acid recovery using, 724.  
—, acetic acid solvent, 905, 916, 1002.  
—, benzaldehyde solvent with, 50.  
—, benzylcellulose plasticizer, 188.  
—, benzylcellulose solvent, 1555, 1588.  
—, butyl tartrate solvent with, 50.  
—, butyric acid extracted with, 716.  
—, carbon tetrachloride and, cellulose ether solvent, 99.  
—, cellulose acetate nonsolvent, 324, 336, 479.  
—, cellulose acetate plastic with, 442.  
—, cellulose acetate precipitant, 385, 388, 811.  
Amyl acetate, cellulose acetate solvent, 1008, 1818.  
—, cellulose acetate solvent with acetone, 624.  
—, cellulose combined with, 228.  
—, cellulose ether solvent, 50, 1841.  
—, cellulose formate precipitant, 442.  
—, cellulose nitrate plastic with, 442.  
—, cellulose nitrate precipitant, 811.  
—, cyclohexanol solvent with, 50.  
—, cyclohexanone solvent with, 50.  
—, delustring with, 210, 2189.  
—, dibenzylamine solvent with, 51.  
—, dilution ratio, 1786, 1787.  
—, dimethylaniline solvent with, 51.  
—, diphenyl methane solvent with, 51.  
—, engine fuel containing, 1910.  
—, ethylbenzene solvent with, 51.  
—, ethylcellulose, crystalline, solvent, 1336.  
—, ethylcellulose plasticizer, 188.  
—, ethylcellulose solvent, 19, 95, 1423.  
—, ethylene bromide solvent with, 50.  
—, ethylene chloride solvent with, 51.  
—, ethylene trichloride solvent with, 50.  
—, ethyl iodide solvent with, 50.  
—, ethyl lactate as substitute for, 422.  
—, film cement containing, 430.  
—, flash point, 2060.  
—, glass, laminated, made using, 2594.  
—, guanin insoluble in, 2614.  
—, hydrocellulose acetate solvent, 353.  
—, lacquer containing, 2408, 2419.  
—, lacquer, brush, made using, 2418.  
—, —, dipping, made using, 2418.  
—, —, spraying, made using, 2418.  
—, mfr., 593, 1068, 1917.  
—, methyl acetate solvent with, 50.  
—, methyl acetone solvent with, 50.  
—, methylene chloride solvent with, 50.  
—, polish, shoe, made using, 689.  
—, starch ether solvent, 1483.  
—, stencil sheet made using, 2488, 2489.

- Amylacetate, tricresyl phosphate and as solvent, 1905.  
—, triethylcellulose solvent, 1334.  
—, trimethylcellulose solvent, 1315.  
—, uses, 1919.  
*iso*-Amyl acetate, 1747.  
—, acetic acid recovered using, 730.  
*sec*-Amyl acetate, 1846.  
Amyl acetate-alcohol, ethylcellulose xanthanilide solvent, 1644.  
*Amylacetic ester*, *see* *Amyl acetate*.  
Amyl acetoacetate, 1929, 1930, 1931.  
Amyl acetyl-glycerate, 1953.  
Amyl acetylglycollate, cellulose acetate softener, 2398.  
—, cellulose nitrate plastifier, 508.  
—, cellulose nitrate solvent, 444.  
Amyl acetyl-lactate, 1953.  
Amyl acetyl-salicylate, 1963.  
Amyl acetyl tartrate, 1953.  
Amyl alcohol, 70, 1091, 1527, 1751, 1811, 1835, 1836, 1849, 1982.  
—, acetic acid concentrated using, 719.  
—, acetylacetone as solvent with, 53.  
—, acetyl-*p*-phenetidine as solvent with, 54.  
—, amyl butyrate as solvent with, 54.  
—, amyl carbonate as solvent with, 54.  
—, amyl chloride for mfr. of, 1253.  
—, amyl formate as solvent with, 54.  
—, amyl propionate as solvent with, 53.  
—, aniline acetate as solvent with, 54.  
—, benzal bromide as solvent with, 54.  
—, benzal chloride as solvent with, 54.  
—, benzaldehyde solvent with, 50.  
—, benzanilid as solvent with, 54.  
—, benzotribromide as solvent with, 54.  
—, benzotrichloride as solvent with, 54.  
—, benzyl bromide as solvent with, 54.  
—, benzyl chloride as solvent with, 54.  
—, benzylethyl ether solvent with, 51.  
Amyl alcohol, *n*-butylbenzyl ether solvent with, 52.  
—, butyl butyrate as solvent with, 54.  
—, butyl carbonate as solvent with, 54.  
—, *n*-butyl-*o*-cresyl ether solvent with, 51.  
—, butyl formate as solvent with, 54.  
—, *n*-butylphenol ether solvent with, 52.  
—, butyl propionate as solvent with, 53.  
—, butyl tartrate solvent with, 50.  
—, caoutchouc substitute containing, 432.  
—, carvone as solvent with, 53.  
—, catechol diacetate as solvent with, 54.  
—, catechol monoacetate as solvent with, 54.  
—, cellulose acetate dyed using, 547.  
—, cellulose acetate nonsolvent, 319.  
—, cellulose acetate plastifier, 930.  
—, cellulose acetate precipitated by, 1043.  
—, cellulose acetate solvent, 469, 472.  
—, cellulose acetate solvent with acetone, 624.  
—, cellulose acetate stabilizer, 734.  
—, cellulose ether containing, 145.  
—, cellulose ether dyed level in presence of, 104.  
—, cellulose ether dyeing using, 2237.  
—, cellulose ether solvent, 50.  
—, cellulose formate precipitant, 1837.  
—, chlorobenzene solvent with, 51.  
—, cyclohexanol solvent with, 50.  
—, cyclohexanone solvent with, 50.  
—, diamyl ketone solvent with, 52.  
—, dibenzylamine solvent with, 51.  
—, dibrombenzene as solvent with, 53.  
—, dibromtoluene as solvent with, 54.  
—, dibutyl ketone solvent with, 52.  
—, diethyl carbanilid as solvent with, 54.  
—, diethyl ketone solvent with, 52.  
—, *p*-dimethylaminobenzanilid as solvent with, 54.

- Amyl alcohol, *p*-dimethylamino-phenyl acetate as solvent with, 54.  
—, dimethylaniline solvent with, 51.  
—, diphenyl ether solvent with, 51.  
—, diphenylethylene diamine as solvent with, 54.  
—, diphenyl methane solvent with, 51.  
—, dipropyl ketone solvent with, 52.  
—, diisopropyl ketone solvent with, 52.  
—, epichlorhydrin as solvent with, 53.  
—, ethylbenzene solvent with, 51.  
—, ethylbenzylaniline solvent with, 51.  
—, ethyl carbonate as solvent with, 54.  
—, ethylcellulose lacquer containing, 2411.  
—, ethylene bromide solvent with, 50.  
—, ethylene chloride solvent with, 51.  
—, ethylene trichloride solvent with, 50.  
—, ethyl formate as solvent with, 54.  
—, ethyl iodide solvent with, 50.  
—, ethyl lactate as solvent with, 53.  
—, ethyl propionate as solvent with, 53.  
—, ethyl succinate as solvent with, 53.  
—, film made using, 2516.  
—, flash point, 2060.  
—, furfural solvent with, 51.  
—, glass, laminated, made using, 2589.  
—, hexyl acetate as solvent with, 53.  
—, hydroxyquinol diacetate as solvent with, 54.  
—, hydroxyquinol monoacetate as solvent with, 54.  
—, hydroxyquinone diacetate as solvent with, 54.  
—, hydroxyquinone monoacetate as solvent with, 54.  
—, lacquer containing, 2413.  
—, methylacetanilid as solvent with, 54.  
—, methyl acetate and, cellulose ether solvent, 99.  
Amyl alcohol, methyl acetate solvent with, 50.  
—, methyl acetone solvent with, 50.  
—, methyl amyl ketone solvent with, 52.  
—, methyl benzoate solvent with, 51.  
—, methyl butyl ketone solvent with, 52.  
—, methyl carbonate as solvent with, 54.  
—, methyl-*o*-cresyl ether solvent with, 52.  
—, methylene chloride solvent with, 50.  
—, methylethyl ketone solvent with, 52.  
—, methyl formate as solvent with, 54.  
—, methyl propionate as solvent with, 53.  
—, methylpropyl ketone solvent with, 52.  
—, methyl salicylate solvent with, 51.  
—, monobrombenzene as solvent with, 53.  
—, monobromtoluene as solvent with, 54.  
—, monochlorbenzene solvent with, 51.  
—, non-chalking composition containing, 1580.  
—, pentachlorethane solvent with, 51.  
—, perchlorethylene solvent with, 51.  
—, phenol solvent with, 51.  
—, phenyl ethers solvent with, 51.  
—, phenylethylether solvent with, 51.  
—, phenylmethyl ether solvent with, 51.  
—, phenylpropyl alcohol solvent with, 51.  
—, phenylurea as solvent with, 54.  
—, polyhydroxybenzene acetates as solvent with, 54.  
—, propyl butyrate as solvent with, 54.  
—, propyl carbonate as solvent with, 54.  
—, propyl formate as solvent with, 54.  
—, propyl propionate as solvent with, 53.

- Amyl alcohol, pyrogallol diacetate as solvent with, 54.  
—, pyrogallol monoacetate as solvent with, 54.  
—, resorcinol diacetate solvent with, 51, 54.  
—, resorcinol monoacetate as solvent with, 54.  
—, solubilizing agent, 2212.  
—, stencil sheet made using, 2488.  
—, tetrachlorethane substitute, 430.  
—, trimethylcellulose solvent, 1315.  
—, varnish containing, 2637.  
—, xylene solvent with, 51.  
—, wetting out agent, 1235.  
—, *see also* *Fusel oil, refined*.  
*iso*-Amyl alcohol, 1837.  
—, amines solvent for, 2008.  
—, celluloid solvent, 890.  
—, cellulose acetate solvent, 890, 1785.  
*ter*-Amyl alcohol, 1867.  
—, celluloid solvent, 890.  
—, cellulose acetate solvent, 890, 1785.  
—, flash point, 2060.  
—, *see also* *Amylene hydrate*.  
Amyl alcohol-alcohol, ethylcellulose xanthanilide solvent, 1644.  
*Amyl amidoformate, see Amyl carbamate*.  
Amyl amido-oxalated, 1948.  
*iso*-Amylamine, 123, 1754, 1755, 1757.  
—, cellulose treated with, 278.  
—, solubility organic compounds in, 2007.  
Amylan, ethers of, 44.  
Amyl angelate, 1836.  
Amylbenzene, 1810.  
Amylbenzensulfone, cellulose acetate plasticizer, 464.  
—, cellulose ether softener, 80.  
Amyl benzoate, 1952, 1957, 1958, 1959, 2630.  
—, cellulose acetate solvent, 1818, 1819.  
—, cellulose ether solvent, 52.  
*iso*-Amyl benzoate, celluloid solvent, 890.  
—, cellulose acetate solvent, 890, 1785.  
Amyl benzoyl-glycerate, 1953.  
Amyl benzoyl-lactate, 1953.  
Amyl benzoyl-salicylate, 1963.  
Amyl benzoyl-tartrate, 1953.  
Amyl borate, 1909.  
Amyl brom-myristate, 1941.  
Amyl brom-palmitate, 1941.  
Amyl brom-stearate, 1941.  
Amylbutylanilid, 2026.  
Amylbutylene glycol ether, cellulose acetate solvent, 665.  
*Amylisobutyl oxide, see Amylisobutyl ether*.  
Amyl butyrate, 1936, 1957, 1962.  
—, acetic acid recovery using, 724.  
—, cellulose acetate solvent, 1818, 1819.  
—, cellulose ether solvent, 54.  
—, engine fuel containing, 1910.  
—, mfr., 1917.  
—, uses, 1937.  
Amyl carbamate, 1955.  
Amyl carbanilate, 1956, 1957.  
*iso*-Amyl carbanilate, 1957.  
Amyl carbonate, 1906.  
—, cellulose ether solvent, 54.  
—, *see also* *Phenylamyl ether*.  
Amyl cellulose, 1337, 1339, 1821.  
—, mfr., 1453.  
*iso*-Amylcellulose oxalate, mfr., 870, 1340.  
Amyl chloracetate, 1920.  
Amyl chloral, 1820.  
Amyl chloride, 238, 1820, 1821, 1920.  
—, amyl alcohol made with, 1253.  
—, cellulose alkylated with, 1606.  
—, cellulose etherified with, 1338, 1453.  
—, dextrin etherified with, 1453.  
—, starch etherified with, 1453.  
*iso*-Amyl chloride, 1821.  
—, cellulose esterified using, 870.  
*n*-Amyl chloride, 1820, 1821.  
*ter*-Amyl chloride, 1821.  
Amyl chlor-myristate, 1941.  
—, cellulose acetate plasticizer, 390.  
Amyl chlor-palmitate, 1941.  
—, cellulose acetate plasticizer, 390.  
Amyl chlor-stearate, 1941.  
—, cellulose acetate plasticizer, 390.  
Amyl cinnamate, 1968, 1979.  
Amyl citrate, 1952.  
*iso*-Amyl citrate, 1951.  
—, cellulose acetate plasticizer, 460.  
Amyl cresoxyacetate, 1926.  
Amyl cresoxyamyl acetate, 1926.  
Amyl cresoxybutyl acetate, 1926.  
Amyl cresoxyethyl acetate, 1926.  
Amyl cresoxymethyl acetate, 1926.  
Amyl cresoxypropyl acetate, 1926.  
Amyl crotonate, 1836.



- Amyl *o*-cyanocinnamate, cellulose acetate plastifier, 508.  
*iso*-Amylcyclohexyl phthalate, 1977, 1978.  
Amyldicresyl phosphate, 1896.  
*iso*-Amyldiethylamine, 1747, 1749.  
—, cellulose combined with, 228.  
—, cellulose ester etherified in presence of, 1434.  
Amyl diethyleneglycol, 1847.  
Amyl diethyleneglycol caprate, 1847.  
Amyl diethyleneglycol caproate, 1848.  
*Amyl diethyleneglycol ether, see Diethyleneglycol amyl ether.*  
Amyl diethyleneglycol laurate, 1848.  
Amyl diethyleneglycol linoleate, 1848.  
Amyl diethyleneglycol oleate, 1848.  
Amyl diethyleneglycol palmitate, 1848.  
Amyl diethyleneglycol ricinoleate, 1848.  
Amyl diethyleneglycol stearate, 1848.  
Amyl dimethylethylacetate, properties, 762.  
*iso*-Amyl dimethylethylacetate, properties, 762.  
Amyldinaphthyl phosphate, 1896.  
Amyldiphenyl phosphate, 1896.  
Amyl dipropyleneglycol, 1847.  
Amyl dipropyleneglycol caprate, 1847.  
Amyl dipropyleneglycol caproate, 1848.  
Amyl dipropyleneglycol laurate, 1848.  
Amyl dipropyleneglycol linoleate, 1848.  
Amyl dipropyleneglycol oleate, 1848.  
Amyl dipropyleneglycol palmitate, 1848.  
Amyl dipropyleneglycol ricinoleate, 1848.  
Amyl dipropyleneglycol stearate, 1848.  
Amylene, cellulose acetate plastic, 458.  
—, cellulose acetate precipitant, 811.  
—, cellulose nitrate precipitant, 811.  
—, chlorhydrins made using, 503.  
Amylene, ethylcellulose lacquer containing, 2411.  
*b-iso-Amylene, see Pental.*  
Amylene chlorhydrin, 1844.  
Amylenechlorhydrin acetate, 1844.  
Amylenechlorhydrin benzoate, 1844.  
Amylene diacetate, 1821, 1923.  
Amylene dichloride, 1821.  
—, celluloid solvent, 890.  
—, cellulose acetate solvent, 890.  
Amylene glycol 1.2, constants, 1997.  
Amylene glycol 1.5, constants, 1997.  
Amyleneglycol acetate, 1921.  
Amyleneglycol butyrate, 1921.  
Amylene oxide, 1390.  
Amyleneglycol propionate, 1921.  
Amyl ester, cellulose acetate lacquer containing, 474.  
Amyl ether, 1869, 1870.  
—, constants of, 517.  
*iso*-Amyl-ether, mfr., 575.  
Amylethylene, cellulose ether solvent, 2227.  
Amylethylene glycol ether, cellulose acetate solvent, 665.  
Amyl ethylenepropylenediglycol, 1847.  
Amyl ethylenepropylenediglycol caprate, 1847.  
Amyl ethylenepropylenediglycol caproate, 1848.  
Amyl ethylenepropylenediglycol laurate, 1848.  
Amyl ethylenepropylenediglycol linoleate, 1848.  
Amyl ethylenepropylenediglycol oleate, 1848.  
Amyl ethylenepropylenediglycol palmitate, 1848.  
Amyl ethylenepropylenediglycol ricinoleate, 1848.  
Amyl ethylenepropylenediglycol stearate, 1848.  
*iso*-Amylethyl sulfate, mfr., 1280, 1289.  
Amyl fluor-myristate, 1941.  
Amyl fluor-palmitate, 1941.  
Amyl fluor-stearate, 1941.  
Amyl formate, 1909, 1911, 1961, 2007.  
—, balloon varnish containing, 438.  
—, celluloid solvent, 890.  
—, cellulose acetate solvent, 890, 1785, 1818, 1819.  
—, cellulose ether solvent, 54.  
—, engine fuel containing, 1910.  
—, fabric coated with, 2483.

- Amyl formate, formic acid solvent, 1008.  
 —, mfr., 593.  
*n*-Amyl formate, amines as solvent for, 2008.  
 Amyl furoate, solubility resins in, 1997.  
*iso*-Amyl furoate, constants, 1997.  
 Amyl formyl-salicylate, 1963.  
 Amyl glycol, 1850, 1854, 1906.  
*iso*-Amyl glycol, cellulose ester solvent for, 57.  
 —, cellulose ether solvent, 57.  
*Amyl hexahydrobenzoate, see Amyl naphthenate.*  
 Amyl hippurate, 1952.  
 Amyl hydride, 2055.  
 —, *see also* *Pentane.*  
*Amylic (inactive) alcohol, see Alcohol, amyl.*  
*Amylic ether, see Amyl oxide.*  
 Amylidenediethyl ether, 1867, 1872.  
 Amylidenedimethyl ether, 1867, 1872.  
 Amyl iodide, 1255.  
*iso*-Amyl iodide, cellulose etherified using, 1298.  
*Amyl ketol, see Butyrone.*  
 Amyl lactate, 1734, 1942, 1945, 1946, 1947, 1952, 1957.  
 —, benzene and, cellulose ether solvent, 1802.  
 —, cellulose acetate plastic containing, 404.  
 —, cellulose ether solvent, 93.  
 Amyl laurate, 2053.  
 Amyl linoleate, 1938.  
 Amyl malate, 1952.  
 Amyl maleate, 1952.  
 Amyl margarate, cellulose ether coagulant, 2097.  
 Amyl mesitylenate, 1952.  
 Amyl mucate, 1952.  
 Amyl naphthenate, 1966.  
 Amyl naphthoxyacetate, 1928, 1942.  
 Amyl nitrate, 2044.  
 Amyl nitrite, 2044.  
 —, cellulose acetate hydrolyzed using, 1014.  
 Amyl nitrolactate, 1946.  
*Amyloacetic ether, see Amyl acetate.*  
*α*-Amylodextrin, 1153.  
 Amyloform, 1618.  
 Amylohemiacellulose, 1154.  
 Amyloid, 2057.  
 —, properties, 893.  
 Amyl oleate, 1938.  
 —, cellulose ether precipitant, 170, 2086, 2097.  
 Amylopectin, 1153, 1675.  
 Amylose, 549, 1115, 1153.  
 —, etherifying, 1418.  
 —, methylated, 1320.  
 Amylose acetate, freezing point of, 875.  
 Amylose disulfate, mfr., 582.  
 Amylose triacetate, molecular weight of, 600.  
 Amyl oxalate, 1942, 1947, 1952, 1957, 2001, 2027.  
 —, cellulose ether solvent, 93.  
 —, mfr., 1917.  
*iso*-Amyl oxalate, 1948.  
 Amyl oxamate, 1948.  
 Amyl oxanilate, 1979.  
*iso*-Amyl oxanilate, 1979.  
 Amyl oxynaphthylamine, 1979.  
 Amyl palmitate, 1938.  
 —, cellulose ether precipitant, 170, 2086, 2097.  
*iso*-Amyl palmitate, properties, 732.  
*n*-Amyl palmitate, properties, 732.  
*Amyl phenate, see Amyl carbonate.*  
 Amyl phenoxyacetate, 1928, 1942.  
 Amyl phenylethylglycollate, 1942.  
 Amyl phenylmalonate, 1952.  
 Amylphenyl sulfone, 2001.  
 Amyl phosphate, 1899, 1952.  
 Amyl phthalate, 1945, 1952, 1968, 1969, 1974, 1975.  
 —, film made using, 2528.  
 —, mfr., 593.  
 —, stencil sheet made using, 2491, 2494.  
 —, waterproofing, regenerated cellulose for, 2412.  
*iso*-Amyl phthalate, 1970.  
 —, cellulose ether plasticizer, 118.  
 —, plastic, mfr., 2574.  
 Amyl propionate, 1932, 1933, 1945.  
 —, cellulose ether solvent, 53.  
 —, engine fuel containing, 1910.  
 —, mfr., 1917.  
 —, propionic acid solvent, 916, 1008.  
*iso*-Amyl propionate, 1934.  
 Amylpropionylanilid, 2026.  
 Amyl propionyl-salicylate, 1963.  
 Amylpropylene glycol ether, cellulose acetate solvent, 665.  
 Amyl ricinoleate, 1925, 1938, 2053.  
 Amyl salicylate, 1952, 1957, 1962, 1963, 1964.

- Amyl salicylate, cellulose acetate solvent, 1818, 1819.  
 —, cellulose ether solvent, 52.  
 —, flash point, 2060.  
 Amyl silicate, 1909, 2058, 2163.  
 Amyl stearate, 1938, 1940, 1945, 1989.  
 —, cellulose acetate delustred by, 946.  
 —, cellulose ester precipitant, 170, 2086, 2097.  
 —, delustring with, 2186.  
*iso*-Amyl stearate, properties, 732.  
*n*-Amyl stearate, properties, 732.  
 Amyl succinate, 1949, 1952.  
 Amyl succinylsuccinate, 1952.  
 Amyl tartrate, 1080, 1925, 1940, 1947, 1951, 1952, 1957.  
 —, mfr., 1917.  
 —, plastic made using, 2559.  
 —, stencil sheet made using, 2491.  
*iso*-Amyl tartrate, 1951.  
 —, cellulose acetate plasticizer, 460.  
 Amyl toluate, 1952.  
 Amyltoluenesulfoanilid, 2025.  
 Amyltoluenesulfone, cellulose acetate plasticizer, 464.  
 —, cellulose ether softener, 80.  
 Amyltolylsulfone, 2001.  
 Amyl triethyleneglycol caprate, 1847.  
 Amyl triethyleneglycol caproate, 1848.  
 Amyl triethyleneglycol laurate, 1848.  
 Amyl triethyleneglycol linoleate, 1848.  
 Amyl triethyleneglycol oleate, 1848.  
 Amyl triethyleneglycol palmitate, 1848.  
 Amyl triethyleneglycol ricinoleate, 1848.  
 Amyl triethyleneglycol stearate, 1848.  
 Amyl trimesate, 1952.  
*ter*-Amylurea, *see* Amylcarbamide, *tertiary*.  
 Amyl urethane, *see* Amyl carbamate.  
 Amyl valerate, 1937.  
 —, mfr., 1917.  
 —, celluloid solvent, 890.  
 —, cellulose acetate solvent, 890, 1785.  
 Amyl valerianate, 1937, 1962.  
 Amylvalerylaniid, 2026.  
 Amylxylenesulfone, cellulose acetate plasticizer, 464.  
 —, cellulose ether softener, 80.  
 Amylxylyl sulfone, 2001.  
 Amzyllolithe, 665, 2567.  
 Anaesthesin, 1275, 1962.  
 —, *see also* Ethyl *p*-aminobenzoic acid.  
 Anaesthone, *see* Anaesthesin.  
 Anaestol, 1275.  
 Anaglyph, cellulose ester in mfr. of, 159.  
 —, cellulose ether in mfr. of, 159.  
 Analgen, *see* Qinalgen.  
 Analgesine, *see* Antipyrine.  
 Analysis, chemical, cellulose acetate fibers used in, 443.  
 Anchoic acid, *see* Azelaic acid.  
 Anchusin, *see* Alkanin.  
 Anemone, *see* Anemonin.  
 Anethol, 1732.  
 —, amines solvent for, 2008.  
 Angelic acid, cellulose acetate hydrolyzed in presence of, 1056.  
 Angelic anhydride, cellulose acetate hydrolyzed in presence of, 1056.  
 Anhydrite, *see* Calcium sulfate.  
 Anhydrocellobiose, 1112, 1162.  
 Anhydroglucochloral, *see* Chloralose.  
 Anhydroformaldehyde-aniline, 2054.  
 —, amines solvent for, 2008.  
 —, cellulose acetate plastifier, 376.  
 Anhydroglucose, 1112, 1306.  
 1,4-Anhydroglucose, 37.  
 Anhydromethylglucoside, mfr. of, 79.  
 Anhydromethylglucoside oleate, mfr. of, 79.  
 Anhydrous butyl chloral, *see* Butyl chloral.  
 Anhydrous phthalic acid, *see* Acid, phthalic anhydride.  
 Anhydrous valeric acid, *see iso*-Valerianic acid.  
*a*-Anil, 2633.  
 Anilide, 1086, 2005, 2019.  
 —, stabilizer, 1564.  
 Anilidoacetic acid, *see* Phenyl glycine.  
 Aniline, 1555, 1641, 1642, 1645, 1746, 1748, 1752, 1754, 1756, 1765, 1766, 1768, 1840, 1859, 1889, 1956, 2015, 2016, 2017, 2018, 2027, 2028, 2032, 2182, 2249, 2346.  
 —, acetic acid made using, 654.

- Aniline, acetylated, cellulose ether dyed using, 2265.
- , alkalicellulose compound with, 305.
  - , 4-amino-1.8-naphthalic anhydride combined with, 305.
  - , benzylcellulose solvent, 230.
  - , cellulose acetate de-esterified by, 796, 797.
  - , cellulose acetate delustered by, 616.
  - , cellulose acetate dyed using, 265, 504, 606, 610, 662, 674, 715, 745, 749, 809, 845, 1010, 2248.
  - , cellulose acetate dye fastness improved by, 607.
  - , cellulose acetate filaments made using, 531.
  - , cellulose acetate hydrated in presence of, 356.
  - , cellulose acetate plastifier, 340, 342.
  - , cellulose acetate solubility modified by, 355.
  - , cellulose acetate solvent, 966, 1055.
  - , cellulose acetate stabilizer, 643.
  - , cellulose acetate stretch spinning in bath of, 785.
  - , cellulose acetate swelled by, 553, 908, 1043.
  - , cellulose ester dyed black by chlorate and, 228.
  - , cellulose ester dyed black with, 180, 210, 267.
  - , cellulose ester polymerized by, 248.
  - , cellulose ether dyed using, 265, 2266, 2301, 2302, 2303, 2305, 2306.
  - , cellulose ether dyed black by chlorate and, 228.
  - , cellulose ether dyed black with, 180, 210, 267.
  - , cellulose ether film containing, 2512.
  - , cellulose ether polymerized by, 248.
  - , cellulose ether solvent, 106, 230, 283, 1841, 2079.
  - , cellulose ether viscosity reduced by, 1363.
  - , cellulose glycollate treated with, 273.
  - , cellulose malate treated with, 273.
  - , cellulose maleate treated with, 273.
- Aniline, cellulose malonate treated with, 273.
- , cellulose oxalate treated with, 273.
  - , cellulose phthalate treated with, 273.
  - , cellulose treated with, 278.
  - , cellulosexanthofatty acid treated with, 124.
  - , cotton dyed black with, 180, 267.
  - , delustring with, 2188.
  - , diazo compounds of, cellulose ether dyed using, 2280, 2294, 2300.
  - , diazotized, cellulose acetate dyed using, 502, 717, 2248.
  - , emulsion, crepe effect using, 2334.
  - , ethylcellulose, crystalline, solvent, 1336.
  - , ethylcellulose dyed using, 265.
  - , ethylcellulose solvent, 19, 230.
  - , feathers dyed using, 715.
  - , filament, cellulose acetate dyed black with, 180.
  - , flash point, 2060.
  - , fur dyed using, 715.
  - , halogenated, cellulose acetate dyed using, 502.
  - , —, cellulose ether dyed using, 2294.
  - , hydrolyzing cellulose acetate with, 421.
  - , lacquer containing, 741, 2395.
  - , leather, artificial, dyed using, 488.
  - , pattern effect using, 2344.
  - , plastic made containing, 2565.
  - , skins dyed using, 715.
  - , stabilizer in cellulose acetate lacquer, 548.
  - , starch ether solvent, 1483.
  - , synthetic resin mfr. using, 1578.
  - , viscose silk dyed black with, 180.
  - , wool dyed black with, 180.
- Aniline acetate, 1926, 2020, 2021, 2024.
- , cellulose ether solvent, 54, 68.
  - , lacquer containing, 2397.
- Aniline bisulfate, catalyst in cellulose acetating, 392.
- Aniline black, 219, 1924, 2240, 2241, 2340, 2349.
- , benzylcellulose dyed by, 62.
  - , cellulose acetate dyed by, 512, 904.

- Aniline black, cellulose ester colored with, 198.  
—, cellulose ester dyed by, 62, 290.  
—, cellulose ester in production of, 239.  
—, cellulose ether colored with, 198.  
—, cellulose ether dyed using, 290, 2225, 2302, 2303, 2304.  
—, cellulose ether in production of, 239.  
—, developing, 198.  
—, dyeing with, 874, 2163.  
—, ethylcellulose dyed by, 62.  
—, fixing, 198.  
—, methylcellulose dyed by, 62.  
—, printing with, 2326.  
Aniline black liquor, cellulose ester dyed black using, 267.  
—, cellulose ether dyed black using, 267.  
—, cellulose ether dyed using, 2304.  
—, cotton dyed black using, 267.  
Aniline blue, amines, solvent for, 2008.  
Aniline chlorate, cellulose ether dyeing assistant, 2222.  
Aniline chloride, 2020, 2021.  
—, acetic anhydride made using, 770, 865.  
—, cellulose acetate delustred by, 616.  
—, stabilizer, 1564.  
Aniline-formaldehydebisulfite, 2249.  
Aniline-furfural, benzylcellulose combined with, 1364.  
—, ethylcellulose combined with, 1364.  
—, methylcellulose combined with, 1364.  
Aniline-furfuraldehyde, 225.  
Aniline-furfural resin, glass, laminated, made using, 2592.  
Aniline-furfuryl resin, 1994.  
Aniline hydrochloride, cellulose ether dyed using, 2304, 2305.  
—, delustring with, 2187.  
Anilinemonosulfate, cellulose formate solvent, 463.  
Aniline nitrate, 531, 1696.  
—, cellulose acetate made using, 979.  
—, cellulose ether dyeing assistant, 2222.  
—, stabilizer, 1564.  
Aniline oil, 2016, 2018, 2241.  
—, cellulose ether dyed using, 2303.  
Aniline oil, multicolor screen made using, 2533.  
—, printing, reserve, color, using, 2326.  
—, *see also* Aniline.  
Aniline oxalate, stabilizer, 1564.  
Aniline phosphate, acetic anhydride made using, 770, 865.  
Aniline resinate, 2018.  
Aniline salt, 2241.  
—, cellulose ether dyed using, 2303.  
—, cellulose formate solvent, 463.  
—, printing, reserve, color, using, 2326.  
—, stabilizer, 1564.  
—, *see also* Aniline hydrochloride.  
Aniline sulfate, acetic anhydride made using, 770, 865.  
—, cellulose acetate hydrolyzed by, 369.  
—, stabilizer, 1564.  
Aniline-sulfochloride, 2629.  
Aniline-o-sulfonic acid, cellulose ether dyed using, 148, 2261.  
Aniline trichloride, 1828.  
Aniline yellow, *see also* Amino-azo-benzene (*p*).  
Anilino acetic acid, *see* Phenylglycine.  
1-Anilinoanthraquinone, cellulose acetate dyed using, 612.  
Anilnocellulose acetate, 1755.  
Anilnocellulose aceto-sulfonate, 1756.  
Anilnodimethylaminoazonium phenyl chloride, film, colored, made using, 2531.  
Anilnodimethylaminophenanthroxyazine chloride, cellulose nitrate and, 283.  
—, ethylcellulose butyrate and, 283.  
1-Anilino-2-methylantraquinone, cellulose acetate dyed using, 612.  
—, cellulose ether dyed using, 2273.  
*Animi*, *see* Copal.  
*Animal charcoal*, *see* Charcoal, animal.  
Animal fiber, cellulose ether from, 196.  
—, dyed, 196.  
*Animalized cellulose*, *see* Cellulose, animalized.  
Animal oil, cellulose acetate precipitant, 516.  
—, cellulose ether lubricant, 303.  
Anisaldehyde, 1868.  
*Anise camphor*, *see* Anethol.

- Anise oil, 2044.  
—, cellulose acetate solvent, 1818, 1819.  
Anise seed oil, cellulose acetate solvent, 1818, 1819.  
Anisic aldehyde, 1868.  
—, cellulose acetate solvent, 1818, 1819.  
Anisic esters, 1966.  
Anisidine, acidyl, cellulose ester plasticizer, 270.  
—, —, cellulose ether plasticizer, 270.  
—, cellulose acetate dyed using, 751, 853, 966.  
o-Anisidine, cellulose acetate dyed using, 265, 493, 719, 809, 2272.  
—, cellulose ether dyed using, 2275.  
p-Anisidine, 2019.  
—, cellulose acetate dyed using, 265.  
—, cellulose ether dyed using, 265, 2250.  
—, cellulose ether plasticizer, 295.  
2-p-Anisidino-a-naphtha-quinone cellulose acetate dyed using, 751.  
2-p-Anisidino-1.4-naphthoquinone, cellulose ether dyed with, 181.  
Anisole, 956, 1594, 1822, 1860, 1870, 1871, 1872, 1958, 1963.  
—, acetic acid solvent, 956, 1031.  
—, acetic anhydride solvent, 768.  
—, benzylcellulose solvent, 230.  
—, cellulose acetate dissolved by, 812.  
—, cellulose acetate plastifier, 452.  
—, cellulose acetate softener, 661.  
—, cellulose acetate solvent, 1818, 1819.  
—, cellulose dispersed in, 280.  
—, cellulose ether solvent, 106, 230, 283.  
—, cellulose nitrate dissolved by, 812.  
—, delustring with, 210, 2189.  
—, fixing agent, 282.  
—, methyl chloride in mfr., 1253.  
—, sensitizer solvent, 241.  
—, tricresyl phosphate and as solvent, 1905.  
—, see also *Methyl-phenyl ether*; *Phenylmethyl ether*.  
Anisyl alcohol, see *Anisic alcohol*, (p).  
Anodymine, see *Antipyrin*.  
**Anon, 844.**  
—, cellulose acetate solvent, 699.  
*Anon, see also Cyclohexanone.*  
A-nonane, cellulose ether solvent, 2227.  
—, solubilizing agent, 2213.  
*Anozol, see Di-ethyl phthalate.*  
*Ansol, see Ethyl acetate; Ethyl alcohol.*  
Ansol M, 1833.  
Anthracene, 1093, 1754, 1827, 2031.  
—, amines solvent for, 2008.  
—, cellulose ester non-solvent, 1806.  
—, cellulose ether plastic with, 64.  
—, chlorinated, 1981.  
—, delustring with, 2185.  
—, dispersing agent, 2452.  
—, filament, voluminous, made using, 1071, 1075.  
—, lacquer containing, 1081.  
—, plastic containing, 2568.  
—, resinous products from, 1572.  
Anthracene oil, acetic acid extracted with, 835, 1016.  
—, cellulose acetate solvent, 446, 1805.  
—, plastic made using, 2560.  
Anthracene-sulfonic acid, 2450.  
—, printing cellulose ether using, 2323.  
Anthrahydroquinone, monosulfuric esters of, 2252.  
Anthramine diazo compound, 1083.  
Anthranelic acid, 1076, 1894, 1895.  
—, amines solvent for, 2008.  
—, cellulose acetate dyed using, 493, 2272.  
—, cellulose ether dyed with, 156, 181, 2257, 2277, 2282.  
—, cellulose ether solvent, 68.  
*Anthranilic acid, see also o-Amido-benzoic acid.*  
Anthranols, cellulose ether dyed using, 2255.  
Anthrapyridone, cellulose ether dyed using, 2252.  
—, cellulose ether dyed by dyes of series, 141.  
Anthrapyridone compounds, cellulose acetate dyed using, 601.  
Anthrapyrimidone, cellulose ether dyed using, 2267.  
Anthraqunone, 1888, 2016, 2192, 2193, 2318, 2320.  
—, amines solvent for, 2008.  
—, base colors, 2325.  
—, benzyl chloride in purifying, 1297.

- Anthraquinone, cellulose acetate delustrated by, 828.  
—, cellulose acetate dyed using, 530, 674, 717, 853.  
—, cellulose ether colored with, (series), 138.  
—, cellulose ether dyed using, 2226, 2237.  
—, cellulose ether dyed with dye-stuffs of, 62.  
—, delustrating with, 2185.  
—, discharge effect with, 2347.  
—, printing, color, using, 2327.  
—, sulfonic derivatives of, cellulose ether dyed using, 2275.  
*a*-Anthraquinone, cellulose ether dyed using, 2257.  
Anthraquinoneacridone, 2634.  
Anthraquinone-acridines, cellulose acetate dyed using, 612.  
—, cellulose ether dyed using, 2273.  
Anthraquinone carbamides, cellulose acetate dyed using, 612.  
—, cellulose ether dyed using, 2257.  
Anthraquinone colors, cellulose acetate colored by, 663.  
Anthraquinone derivatives, cellulose ester dyed with, 256.  
—, cellulose ether dyed with, 256, 2227, 2270, 2293.  
Anthraquinone dye, cellulose acetate dyed using, 601.  
Anthraquinone-1-hydrazine, cellulose ether dyed using, 2264.  
Anthraquinone-1-*b*-hydroxyethyl mercaptan, cellulose ether dyed by, 144.  
Anthraquinone mercaptan, cellulose ether dyed using, 2256.  
Anthraquinone-1-mercaptan, 144.  
Anthraquinone-*b*-mercaptopropionic acid, cellulose ether dyed using, 2258.  
Anthraquinone monosulfonate, mfr., 902.  
Anthraquinone sulfonic acid, pinacone diacetate made using, 456.  
—, printing paste containing, 2325.  
—, wetting agent, 2208.  
Anthraquinonethioxanthone, 2634.  
Anthraquinonylalanines, cellulose acetate dyed using, 674, 2245.  
Anthraquinonylamine, cellulose ether dyed using, 2266.  
Anthraquinonylamine alcohol, benzylcellulose dyed using, 1586.  
Anthraquinonylamine ester, benzylcellulose dyed by use of, 169.  
—, ethylcellulose dyed by use of, 169.  
—, methylcellulose dyed by use of, 169.  
Anthraquinonylamino alcohol, cellulose ether dyed with, 139.  
*a*-Anthraquinonyl carbamate, cellulose ether dyed using, 2257.  
*a*-Anthraquinonylcarbamic chloride, cellulose acetate dyed using, 612.  
—, cellulose ether dyed using, 2257.  
*a*-Anthraquinonylethyl carbamate, cellulose acetate dyed using, 612.  
—, cellulose ether dyed using, 2258.  
Anthrarufins, cellulose ether dyed using, 2281.  
Anthrene B, cellulose ether dyed with, 2242.  
Anthrene blue-green B, methylcellulose dyed by, 271.  
Anthrene Jade Green, 2243.  
*a*-Anthrol, 2634.  
Anthrol diazo compound, 1083.  
Antidolorin, 1275.  
*Antifebrin*, see *Acetanilid*.  
Antimony acetate, waterproofing with, 218.  
Antimony bromide, catalyst in cellulose acetate mfr., 773.  
—, cellulose acetate mfr. in presence of, 773.  
Antimony chloride, benzylcellulose waterproofed by, 2158.  
—, catalyst, 539.  
—, catalyst in cellulose acetating, 354, 773.  
—, catalyst in ethyl chloride mfr., 1267, 1268.  
—, cellulose acetate mfr. in presence of, 773.  
—, cellulose acetate solvent, 399.  
—, cellulose ether colored using, 2476.  
—, cellulose purified by, 1408.  
—, methylcellulose waterproofed by, 2158.  
—, waterproofing with, 218.  
Antimony hydroxide, catalyst in ethyl chloride mfr., 1267.  
Antimony iodide, catalyst in cellulose acetate mfr., 773.  
—, cellulose acetate mfr. in presence of, 773.

- Antimony oleate, delustring with, 2183.
- Antimony oxide, 1075.
- , card, playing, mfr. using, 2609.
- , card containing, 292.
- , catalyst in ethyl chloride mfr., 1267.
- , playing card containing, 203, 292.
- Antimony oxychloride, 2518.
- , catalyst in ethyl chloride mfr., 1267.
- , fireproofing with, 491.
- , metallic effect produced by, 141.
- , pearl essence made using, 2620.
- , textiles, metallization of, with, 2361.
- Antimony palmitate, delustring with, 2183.
- Antimony pentachloride, 1816.
- , catalyst in tetrachlorethane mfr., 548.
- , *see also* *Antimony (ic) chloride*.
- Antimony phosphate, benzylcellulose loaded with, 1590.
- , ethylcellulose loaded with, 1590.
- Antimony silicate, benzylcellulose loaded with, 1590.
- , ethylcellulose loaded with, 1590.
- Antimony stearate, delustring with, 2183.
- Antimony sulfate, benzylcellulose waterproofed by, 2158.
- , ethylcellulose waterproofed by, 2158.
- , methylcellulose waterproofed by, 2158.
- Antimony sulfide, cellulose acetate dyed with, 568.
- , cellulose ether colored using, 2476.
- Antimony tannate, benzylcellulose loaded with, 1590.
- , ethylcellulose loaded with, 1590.
- Antimony tartrate, loading with, 2153.
- Antimony thiocyanate, benzylcellulose waterproofed by, 2158.
- , cellulose acetate solvent, 399.
- , ethylcellulose waterproofed by, 2158.
- , methylcellulose waterproofed by, 2158.
- Antimony trichloride, 2058, 2059.
- , benzylcellulose treated with, 1561.
- , cellulose acetate solvent, 403.
- Antimony trichloride, fabric coated using, 491.
- , fireproofing with, 435, 491.
- , inflammability reduced by, 1055.
- , paper coated using, 491.
- , solvent, carbon tetrachloride in, 1814.
- , wood coated using, 491.
- , *see also* *Antimony (ous) chloride*.
- Antipyrreticum*, *see* *Antipyrin*.
- Antipyrin, 1965, 2024.
- Antipyrin carbolate*, *see* *Phenopyrine*.
- Antipyrin iodide*, *see* *Iodopyrine*.
- Antipyrin mandelate*, *see* *Tussol*.
- Antipyrin phenylglycollate*, *see* *Tussol*.
- Antipyrin salicylate, 1964.
- Antique leather*, *see* *Leather, antique*.
- Antiseptic pencil*, *see* *Pencil, antiseptic*.
- Apex, delustring, 909.
- , dyeing, properties, 909.
- , fluorescence, 909.
- , properties, 909.
- Aponal*, *see* *Amyl carbamate*.
- Apple acid*, *see* *Malic acid*.
- Apple coil*, *see* *Amyl valerianate*.
- Arabin*, *see* *Arabic acid*.
- Arabinose, 1499.
- Arabite, 1874.
- , *see* *Arabitol*.
- d*-Arabotrimethoxyglutaric acid, 1500.
- 1-Arabotrimethoxyglutaric acid, 1499.
- 1-Arabotrimethylglutaric acid, 1498.
- Arachic acid*, *see* *Arachidic acid*.
- Arachis oil, delustring by, 946, 2182.
- Aralkyl-amines, cellulose ether lacquer containing, 155.
- Aralkylaminobenzo-quinone, cellulose ester dyed with, 180.
- , cellulose ether dyed with, 180.
- Aralkylaminonaphtho-quinone, cellulose ester dyed with, 180.
- , cellulose ether dyed with, 180.
- N*-Aralkylaniline sulfonic acid, cellulose acetate dyed using, 676.
- Aralkyl-cellulose thiorethane, 1645.
- Aralkyl-cellulose xanthanilid, 1645.
- Aralkyl-*a*-naphthylamine, cellulose ether dyed using, 2274.



- Aran's anesthetic ether, 1815.  
Arbor green, cellulose acetate dyed, 1034.  
Arcy, cellulose acetate dyed in presence of, 651.  
*Argentica*, see *Silver*.  
Aristol, 2446.  
Aromatic amines, see *Amines*, aromatic.  
*p*-Arsanilic acid, cellulose acetate dyed using, 653.  
Arsenic acid, acetaldehyde made using, 572.  
—, catalyst in acetic acid mfr., 605.  
—, catalyst in methyl acetate mfr., 605.  
—, cellulose ether fireproofed by, 135.  
—, fireproofing with, 2129.  
—, flameproofing with, 2129.  
—, methyl acetate made using, 1045.  
Arsenic bromide, catalyst in cellulose acetate mfr., 773.  
—, cellulose acetate mfr., in presence of, 773.  
Arsenic chloride, catalyst in cellulose acetate mfr., 773.  
—, cellulose acetate mfr. in presence of, 773.  
—, cellulose purified by, 1408.  
Arsenic iodide, catalyst in cellulose acetate mfr., 773.  
—, cellulose acetate mfr. in presence of, 773.  
Arsenic trioxide, glass made using, 525.  
*Arsenous hydride*, see *Arsine*.  
Arsinic group, cellulose acetate dyed using, 653.  
*Arthriticine*, see *Piperazine*.  
Artichoke, Jerusalem, inulin from, 1156.  
Articles, cellulose acetate drying, 720.  
*Artificial almond oil*, see *Benzaldehyde*.  
*Artificial bristles*, see *Bristles*, artificial.  
*Artificial camphor*, see *Camphor*, artificial.  
*Artificial cork*, see *Cork*, artificial.  
*Artificial essential oil of almond*, see *Benzaldehyde*.  
*Artificial filaments*, see *Filaments*, artificial.  
*Artificial foil*, see *Foil*, artificial.  
*Artificial hair*, see *Hair*, artificial.  
*Artificial horse hair*, see *Horse hair*, artificial.  
*Artificial leather*, see *Leather*, artificial.  
*Artificial musk*, see 2.4.6-Trinitro-*tertiary-butyl-toluene*.  
*Artificial oil of ants*, see *Furfural*.  
*Artificial oil of wintergreen*, see *Methyl salicylate*.  
*Artificial ostrich feathers*, see *Feathers*, ostrich.  
*Artificial rubber*, see *Rubber*, artificial.  
*Artificial silk*, see *Silk*, artificial; *Filaments*, artificial.  
*Artificial sponge*, see *Sponge*, artificial.  
*Artificial stone*, see *Stone*, artificial.  
*Artificial straw*, see *Straw*, artificial.  
*Artificial tulle*, see *Tulle*, artificial.  
Artisil Direct Red, 837.  
Artisil Direct Red 2BL, cellulose ether dyed using, 2259.  
Aryl-alkyl sulfates, mfr., 1288.  
Aryl-amine, cellulose ether lacquer containing, 155.  
—, unsulfonated, cellulose ether dyed with, diazotized, 117.  
Arylamino-monocarboxylic acid, diazotized, cellulose ether dyed with, 156.  
Arylamino-monosulfonic acid, diazotized, cellulose ether dyed with, 156.  
Arylaminoanthraquinone, cellulose ether dyed using, 2248.  
—, mfr., 297.  
*a*-Arylaminoanthraquinones, cellulose ether dyed using, 2273.  
1-Arylamino-4-aminoanthraquinone, cellulose ether dyed using, 2248.  
*p*-Arylamino-diphenylamines, cellulose ester dyed with, 121.  
—, cellulose ether dyed with, 121.  
Aryl-azo-diarylamines, monosulfonated, cellulose ether dyed by, 122.  
Arylbenzo-quinonemonoimide, cellulose acetate dyed using, 502.  
Arylhalidesulfonate salt, cellulose sulfonated by, 123.  
Arylhalidesulfonic acid, cellulose sulfonated by, 123.

- 1-Arylido-4-aminoanthraquinone, cellulose ether dyed with, 165.
- Aryloxyacetic acid esters, cellulose nitrate plastic containing, 66.
- Arylsulfonamide, 2017.
- , cellulose ether setting bath containing, 253, 262.
- Arylsulfonanilide, 2017.
- , cellulose ether plastifier, 175.
- Aryl sulfonarylamide, cellulose ether dyed with diazotized, 117.
- Arylthiocarbamate*, see *Arylthiourethane*.
- Arylthiourethane, 90.
- Arylxanthamide*, see *Arylthiourethane*.
- Asbestine, delustring with, 2176.
- Asbestos, adhesive for, 2598.
- , cellulose acetate coated, 369.
- , cellulose acetate impregnated, 566, 812, 844.
- , conductors, electric, insulator for, made using, 2442.
- , delustring with, 2176.
- , diphenylolpropane-acetone condensate as adhesive for, 260.
- , diphenylolpropane-formaldehyde condensate as adhesive for, 260.
- , ethylcellulose with, 1334.
- , gun stock made using, 588.
- , lacquer for, 2420.
- , lacquer and cellulose ether with, 153.
- , molding powder containing, 2645.
- , phenol aldehyde condensate as adhesive for, 260.
- , plaster and cellulose ether with, 153.
- , plastic made containing, 2564.
- , putties and cellulose ether with, 153.
- , resin impregnated, 844.
- , stiffening, cellulose acetate, 1980.
- , tobacco pipe made using, 588.
- , waterproofing, 369.
- Asbestos powder, cellulose ether plastic containing, 150.
- Ash, determination in cellulose ether, 2651.
- Asparamide*, see *Asparagin*.
- Asparagic acid*, see *Asparaginic acid*.
- Asparagine*, see *Asparagin*.
- Aspartic acid*, see *Asparaginic acid*.
- Aspen, acetylating, 877.
- Aspergillus*, 2201.
- , growth on cellulose acetate fabric, 965.
- d'Aspic*, see *Oil d'aspic*.
- Asphalt, acid from, 461.
- , aldehydes from, 461.
- , block, molded, made using, 162.
- , ethyl chloride from, 1268.
- , record, phonograph, made using, 162, 2605.
- Asphalt substitute, lignin in, 1177.
- Aspirin*, see *Acetyl-salicylic acid*.
- Atmospheric nitrogen*, see *Nitrogen*.
- Atoxyl, amines solvent for, 2008.
- iso-Atropic acid*, see *a-Truxillic acid*.
- Aubepine*, see *Anisic aldehyde*.
- Auramine, 531, 1985, 2640.
- , cellulose acetate dyed using, 665, 718, 2235.
- , cellulose ester dyed using, 290, 2222.
- , cellulose ester treated with, 275.
- , cellulose ether dyed using, 290, 2259.
- , cellulose ether treated with, 275.
- , lacquer colorant, 2421.
- , silk dyed using, 665.
- Auric*, see *Gold (ic)*.
- Aurine, cellulose acetate dyestuffs, 989.
- Aurun*, see *gold*.
- Ausperite, 370.
- Autoclave, steel, esterifying in, 1444.
- Automobile, cellulose acetate fabric for, 685.
- Automobile glass*, see *Glass, laminated*.
- Auxanin B, 705.
- Avantine*, see *iso-Propyl alcohol*.
- Aviation*, see *Aeronautics, Aircraft, Balloon*.
- Avivage, 2202.
- , methods of, 593.
- Azanile, cellulose acetate dyed with, 707, 711.
- , cellulose acetate dyestuffs, 677.
- Azelaic acid, glyceryl condensate of, cellulose acetate plastifier, 939.
- , glycerol condensed with, 1079.
- Azimethylene*, see *Diazomethane*.

- Azo, cellulose ether dyed by dyes of series, 141.  
 Azobenzene amines solvent for, 2008.  
*Azobenzide, see Azobenzene.*  
*Azobenzol, see Azobenzene.*  
 Azo colors, cellulose ether dyed using, 2259.  
 Azo compounds, cellulose ether dyed using, 2227.  
 Azo dye, mfr., 281.  
 Azofuch sine, 4, 5.  
 Azogrenadine S, wool dye, 982.  
 Azoic colors, cellulose acetate dyed with, 600.  
 Azole, cellulose acetate dyed with, 707, 711.  
 —, cellulose acetate dyestuffs, 677.  
 Azonine, cellulose acetate dyed with, 618, 619, 707, 711.  
 —, cellulose acetate dyestuffs, 677.  
 Azonine B, cellulose ether dyed using, 2288.  
 Azonine dyes, cellulose acetate dyed with, 542.  
 Azonine direct dye, application of, 2312.  
 Azonine G, cellulose ether dyed using, 2288.  
 Azonine R, cellulose ether dyed using, 2288.  
 Azonine 2R, cellulose ether dyed using, 2288.  
 Azonine S, cellulose ether dyed using, 2288.  
 Azo stilbene, cellulose acetate dyed with, 639.  
 Azoxybenzene, amines solvent for, 2008.  
 Azoyellow, benzylcellulose dyed with, 123.  
 —, cellulose acetate dyed using 672.  
 Azo Yellow 3 G, benzylcellulose dyed by, 62, 1584.  
 —, cellulose ester dyed by, 62.  
 —, cellulose ether dyed using, 2225, 2226.  
 —, ethylcellulose dyed by, 62.  
 —, methylcellulose dyed by, 62.  
  
*Baby comforters, see Comforters, baby.*  
*Baby soothers, see Soothers, baby.*  
 Bacillus macerans, 1473.  
 Bactericide, methyl chloride as, 1253.  
 Bag, cellulose ester and rubber for, 216.  
 —, cellulose ether and rubber for, 216.  
 —, gas, cellulose acetate for rendering impermeable, 513.  
 —, —, gelatin for rendering impermeable, 513.  
 —, —, glycerinated gelatin for rendering impermeable, 513.  
 —, —, glycerol for rendering impermeable, 513.  
 —, rubber for, 216.  
 Bagasse, esterifying, 729.  
 Bakelite, 1555.  
 —, cellulose ether water solubility decreased by, 118.  
 —, ethylcellulose water-solubility diminished by, 1347.  
 —, plastic of cellulose acetate and, 840.  
 Baking compound, hemicellulose in, 1182.  
 Balata, cardboard waterproofed by, 449.  
 —, cartridge, shotgun, water-proofed by, 2157.  
 —, cellulose acetate and for waterproofing, 431.  
 —, cellulose acetate plastic containing, 87.  
 —, cellulose acetate solvent, 1819.  
 —, cellulose formate plastic containing, 87.  
 —, cellulose naphthenate as substitute for, 788.  
 —, cellulose naphthenate-oleate as substitute for, 788.  
 —, cellulose nitrate plastic containing, 87.  
 —, gun-cartridge waterproofed by, 449.  
 —, ink containing, 2547.  
 —, starch naphthenate-oleate-stearate as substitute for, 788.  
 Ball, billiard, cellulose acetate in mfr., 926.  
 —, —, cellulose acetostearate for, 1717.  
 —, —, cellulose elaidate for, 1717.  
 —, —, cellulose laurate for, 1717.  
 —, —, *see also Billiard ball.*  
 —, playing, cellulose acetate in mfr. of, 423.  
 —, —, viscose in mfr. of, 423.

- Ball fall method, viscosity determination, 2652.
- Balloon, amyl formate for coating fabric of, 2483.
- , cellulose acetate for coating fabric of, 2483.
- , fabric, casein in mfr., 891.
- , —, cellulose acetate in mfr., 891.
- , —, cellulose acetate for impregnation of, 440.
- , —, gelatin in mfr., 891.
- , —, glycerol in mfr., 891.
- , facts for coating fabric of, 2483.
- , rubber for coating fabric of, 2483.
- , viscose for coating fabric of, 2483.
- , zapon varnish for coating fabric of, 2483.
- , *see also Aeronautics, Aircraft, Aviation.*
- Balm oil, 1962, 2044.
- Balsam, *see Copaiba.*
- Balsam Peru, 1959.
- Balsam Peru, *see also Tolu balsam.*
- Balsams, 2054.
- Baly-Hartley method, 1371.
- Bamboo, cellulose from, 296.
- , lignin, etherified from, 296.
- , meal, acetylating, 1051.
- , —, cellulose from, 1051.
- Banana ether, *see Amyl acetate.*
- Banana oil, *see Amyl acetate.*
- Band, cellulose acetate coated, 374.
- , printing, cellulose acetate in mfr., 727.
- , waterproofing, cellulose ether for, 2403.
- Baras camphor, *see Borneol.*
- Barium, cellulose treated with, 1431.
- Barium acetate, 1094.
- , cellulose ester delustered by, 222.
- , cellulose ether delustered by, 222.
- , creping fabric using, 1094.
- , sulfur in cellulose acetate removed by, 929.
- , waterproofing with, 218.
- Barium alcoholate, ethyl alcohol made using, 863.
- Barium borate, delustring cellulose ether by, 266.
- Barium bromide, cellulose acetate preserved by, 714.
- Barium bromide, cellulose acetate solubility in, 574.
- Barium carbonate, acetic anhydride mfr. using, 632.
- , alkylating in presence of, 301.
- , cellulose acetate delustered by, 747.
- , cellulose ester delustered by, 271.
- , cellulose ester weighted by, 271.
- , cellulose ether delustered by, 271.
- , cellulose etherified in presence of, 1451.
- , cellulose thickener for printing on, 102.
- , delustring with, 2169, 2179.
- , fabric printed using, 2344.
- Barium cellulose xanthacetate, 1762.
- Barium chloride, 1527, 2242.
- , benzylcellulose waterproofed by, 2158.
- , cellulose acetate dyed in presence of, 510, 726.
- , cellulose acetate preserved by, 714.
- , cellulose ester delustered by, 222.
- , cellulose ether delustered by, 222.
- , cellulose ether viscosity reduced by, 2093.
- , delustring using, 2179.
- , dyeing in presence of, 2270.
- , ethylcellulose waterproofed by, 2158.
- , luster of cellulose acetate preserved by, 632.
- , luster preserved by, 2172, 2173.
- , methylcellulose waterproofed by, 2158.
- , waterproofing with, 218.
- Barium citrate, scroop imparted by, 2203.
- Barium hydroxide, 73, 74, 1094, 2059, 2164.
- , aldol made using, 714.
- , cellulose acetate made using, 771.
- , cellulose acetate dyed in presence of, 726.
- , cellulose acetate hydrolized by, 873.
- , cellulose acetate saponified by, 850.
- , creping fabric using, 1094.

- Barium hydroxide, delustring with, 2187.  
—, ethyl alcohol made using, 863.  
—, oxycellulose detected by, 496.  
—, sodium chloride estimated with, 528.  
—, starch methylated using, 1473.  
—, sulfate estimated with, 528.  
Barium hyposphosphite, 2059.  
Barium iodide, cellulose acetate solubility in, 574.  
Barium lake, cellulose acetate dyed, 1010.  
Barium nitrate, cellulose ester delustered by, 222, 2179.  
—, cellulose ether delustered by, 222, 2179.  
Barium oleate, 1076.  
—, caoutchouc and for varnish, 249.  
—, cellulose ester and for varnish, 249.  
—, cellulose ether and for varnish, 249.  
Barium oxalate, scroop produced by, 935, 2203.  
Barium oxide, cellulose treated with, 1431.  
—, ethyl alcohol made using, 863.  
Barium oxychloride, 2059.  
Barium paper, 2529.  
Barium perchlorate, bleaching cellulose by, 1411.  
—, catalyst in cellulose acetate mfr., 688.  
—, cellulose purified by, 1411.  
Barium phosphate, cellulose acetate delustred by, 747, 767.  
—, cellulose ester delustred by, 222, 229.  
—, cellulose ether delustred by, 176, 222, 229, 271.  
—, delustring by, 271, 2176, 2197.  
Barium resinate, caotchouc and for varnish, 249.  
—, cellulose ester and for varnish, 249.  
—, cellulose ether and for varnish, 249.  
Barium silicate, delustring with, 2175.  
Barium sulfacetate, 319.  
Barium sulfate, 147, 1075, 2059.  
—, benzylcellulose waterproofed by, 2158.  
—, cellulose acetate delustred by, 747, 767.  
Barium sulfate, cellulose acetate matt surface made using, 699.  
—, cellulose ester delustred by, 222, 229, 271.  
—, cellulose ester weighted by, 271.  
—, cellulose ether delustred by, 164, 176, 222, 229, 271.  
—, cellulose ether thickener for printing on, 102.  
—, cellulose ether weighted by, 271.  
—, cellulose united with, 538.  
—, collar waterproofed by, 566.  
—, delustring by, 260, 271, 727, 932, 2148, 2174, 2176, 2179, 2180, 2191.  
—, dull effect produced using, 2363.  
—, ethylcellulose waterproofed by, 2158.  
—, fabric printed using, 2344.  
—, film made using, 2504.  
—, loading with, 2148, 2151.  
—, matt effect produced using, 2363.  
—, methylcellulose waterproofed by, 2158.  
—, phonograph record of cellulose acetate and, 678.  
—, rubber united with, 538.  
—, signal, traffic, made using, 1001.  
Barium sulfide, cellulose acetate filament containing, 932.  
—, filament treated with, 2363.  
—, phosphorescence produced by, 1372.  
Barium sulfocyanide, 176.  
Barium tartrate, scroop imparted by, 2203.  
Barium thiocyanate, 2316.  
—, benzylcellulose waterproofed by, 2158.  
—, cellulose acetate delustred by, 747.  
—, discharge effects on cellulose acetate with, 613.  
—, ethylcellulose waterproofed by, 2158.  
—, methylcellulose waterproofed by, 2158.  
Barium tungstate, acetic anhydride mfr., 754, 769.  
Barkite, 1991.  
*Barkite, see also Dimethyl cyclohexanyl oxalate; Dimethylcyclohexyl oxalate.*  
Barley-straw, alkylating, 282.  
—, benzylating, 282, 1541.  
Barley-straw ether, mfr. of, 282.  
—, solubility of, 282.

- Bars, plastic, mfr., 2574.
- Baryta*, see *Barium hydroxide*.
- Barytes, plastic made containing, 2564.
- , see also *Barium sulfate*.
- Base, pigmented, cellulose acetate mfr., 1084.
- , planographic printing, 1086.
- , pyridine, cellulose ether solvent, 2081.
- Basic (tri)formic ether*, see *Ethyl o-formate*.
- Basic nigrosines*, see *Nigrosines, basic*.
- Bassorin, stencil sheet made using, 2499.
- Bathing-suit bag, cellulose ester and rubber for, 216.
- , cellulose ether and rubber for, 216.
- , rubber for, 216.
- Battery, dry, ethyl chloride for, 1273.
- , storage, cellulose trisulfate for, 1681.
- , —, separator, cellulose acetate for mfr., 497.
- Bauxite, catalyst in ethyl chloride mfr., 1269.
- Bead pearls, mfr., 2615.
- Beauxite*, see *Bauxite*.
- Beckolak*, see *Amyl alcohol; Benzene*.
- Beech, acetylating, 877.
- Beech tar, 1859.
- Beechwood, red, composition of, 1176.
- Beechwood flour, methylation of, 1623.
- Beef suet, cellulose acetate lubricant, 817.
- , cellulose acetate sized using, 696.
- Beeswax, 2053, 2054.
- , airplane coated with, 2484.
- , amines solvent for, 2008.
- , benzylcellulose treated with, 1562.
- , cellulose acetate ironing temperature reduced by, 933.
- , cellulose ether varnish containing, 101.
- , crayons made using, 2540.
- , delustring with, 2182.
- , ethylcellulose solvent, 19, 1300.
- , fabric coated using, 2483.
- , film containing, 886, 2506.
- Beeswax, solvent evaporation lessened by, 441.
- , starch ether solvent, 1483.
- , transfer made using, 2550.
- , wax, sealing, made using, 2540.
- Beet juice, spinning in presence of, 1070.
- Belladonna, 2446.
- Belt, cellulose acetate for coating, 414.
- , driving, cellulose acetate in mfr. of, 480.
- , fabric, elastic for, 2382.
- , printing, cellulose acetate in mfr., 727.
- Belting, castor oil for mfr. of, 431.
- , cellulose acetate for mfr. of, 431.
- , phenol for mfr. of, 431.
- "Ben Day" effects, cellulose acetate for, 736.
- Bennetate, 2567.
- Bentonite, delustring with, 275, 2169, 2179.
- Bentonite, stencil sheet made using, 2497.
- Benzalacetophenone, amines solvent for, 2008.
- Benzal bromide, benzylcellulose treated with, 1563.
- , cellulose ether plastifier, 174.
- , cellulose ether solvent, 54.
- Benzal chloride, 1294, 1297.
- , benzyl chloride impurity, 1513.
- , cellulose ether plastic with, 64.
- , cellulose ether solvent, 54.
- , plastic containing, 2568.
- , resinous products from, 1572.
- , see also *Benzylidene chloride*.
- Benzaldehyde, 372, 955, 1864, 1867, 1868, 1874, 1878, 1889, 1923, 1996.
- , amines solvent for, 2008.
- , benzyl alcohol impurity, 1862.
- , benzylcellulose insoluble in, 1537.
- , cellulose acetate dyed using, 718.
- , cellulose acetate solvent, 566.
- , cellulose ether dyed using, 2251, 2258, 2274.
- , cellulose ether solvent, 50.
- , delustring with, 210, 2190.
- , ethylcellulose water-solubility diminished by, 1347.
- , flash point, 2060.
- , mfr., 480.
- , —, benzyl chloride in, 1297.
- , —, methyl sulfate in, 1264.

- Benzamide, 1645, 1654, 1658, 1748, 2017.  
 —, amines solvent for, 2008.  
 —, cellulose dixanthate combined with, 148.  
 —, cellulose ether solvent, 68.  
 —, cellulose xanthate combined with, 148.  
 —, stabilizer, 1564.  
 —, starch xanthate combined with, 148.  
*Benzamidoacetic acid, see Hippuric acid.*  
 1-Benzamido-4-hydroxyanthraquinone, cellulose ester dyed using, 264.  
 —, cellulose ether dyed using, 264, 2244.  
*Benzaminic acid, see m-Amidobenzoic acid.*  
 Benz-1-aminobenzanthrone, cellulose acetate dyed using, 673.  
*Benzanalgen, see Quinalgen.*  
 Benzanilid, 2003, 2015, 2024.  
 —, cellulose ether solvent, 54.  
 Benzanthrone, 2641.  
 —, benzyl chloride in purifying, 1297.  
 Benzene, 98, 1850, 2043.  
 —, acetic acid extracted using, 605, 670.  
 —, acetic acid solvent, 667, 905, 928, 1005.  
 —, acetic acid and formic acid separated by, 1000.  
 —, acetic anhydride made using, 769.  
 —, acetic anhydride extracted with, 605.  
 —, airplane fabric coated using, 485.  
 —, alkalicellulose made in presence of, 59.  
 —, aluminum naphthenate solvent of, 107.  
 —, aluminum resinate solvent of, 107.  
 —, amines solvent for, 2008.  
 —, ammonium naphthenate solvent of, 107.  
 —, ammonium resinate solvent of, 107.  
 —, amyl benzoate with, as solvent, 52.  
 —, amyl salicylate with, as solvent, 52.  
 Benzene, benzylcellulose solvent, 10, 230, 248, 249, 278, 1345, 1540, 1541, 1555, 1587.  
 —, benzylcellulose viscosity reduced by, 224.  
 —, benzyldextrin solvent, 1516.  
 —, benzyl starch solvent, 1516.  
 —, b. pt. methyl alcohol with, 1831.  
*Benzene, borated, see Borated benzene.*  
 Benzene, bromo, cellulose ether inflammability reduced by, 182.  
 —, iso-butyl-benzoate with as solvent, 52.  
 —, n-butyl benzoate with as solvent, 52.  
 —, butylbenzylcellulose solvent, 278, 1345.  
 —, butylcellulose solvent, 278, 1345.  
 —, iso-butyl salicylate with, as solvent, 52.  
 —, n-butyl salicylate with as solvent, 52.  
 —, calcium naphthenate solvent of, 107.  
 —, calcium resinate solvent of, 107.  
 —, carbon bisulfide and cellulose ether solvent, 1797.  
 —, cellulose acetate delustred by, 776.  
 —, cellulose acetate lacquer containing, 478.  
 —, cellulose acetate non-solvent, 1016.  
 —, cellulose acetate plastic made using, 768.  
 —, cellulose acetate precipitant, 811, 1043.  
 —, cellulose acetate protected by, in mercerizing, 616.  
 —, cellulose acetate solvent, 484, 1039, 1819, 1843.  
 —, cellulose acetate stretch spinning in bath of, 785.  
 —, cellulose acetate swelled by, 553, 660, 800, 908, 912.  
 —, cellulose acetobutyrate solvent, 559, 1345.  
 —, cellulose acetobutyrolaurate, solubility, 1345.  
 —, cellulose acetolaurate, solubility, 1345.  
 —, cellulose acetopropionate, solubility, 1345.  
 —, cellulose alkalized in presence of, 1430.

- Benzene, cellulose butyrate, solubility, 1345.  
—, cellulose butyrolaurate, solubility, 1345.  
—, cellulose capronate, solubility, 1345.  
—, cellulose dilaurate solvent for, 538.  
—, cellulose dipalmitate solvent for, 538.  
—, cellulose distearate solvent for, 538.  
—, cellulose esterified in presence of, 709.  
—, cellulose ester lacquer containing, 486.  
—, cellulose ether film made using, 2508.  
—, cellulose etherified in presence of, 24.  
—, cellulose ether non-solvent, 186, 1452, 2077, 2089, 2091.  
—, cellulose ether softener, 2336.  
—, cellulose ether solvent, 8, 22, 230, 244, 1447, 1802, 1841, 2079, 2102, 2227, 2351.  
—, cellulose ether solvent of acetone and, 54.  
—, cellulose ether solvent of carbon tetrachloride and, 54.  
—, cellulose ether swelling agent, 104.  
—, cellulose formate, solubility, 1345.  
—, cellulose laurate, solubility, 1345.  
—, cellulose naphthenate, solubility, 1345.  
—, cellulose naphthenate-laurate, solubility, 1345.  
—, cellulose naphthenate-oleate-laurate, solubility, 1345.  
—, cellulose nitrate precipitant, 811.  
—, cellulose pelargonate, solubility, 1345.  
—, cellulose propionate, solubility, 1345.  
—, cellulose solvent, 1330.  
—, cellulose stearate, solubility, 1345.  
—, cellulose trilaurate solvent for, 538.  
—, cellulose tripalmitate solvent for, 538.  
—, cellulose tristearate solvent for, 538.
- Benzene, cellulose valerate, solubility, 1345.  
—, chlorhydrins made using, 503.  
—, coating compounds containing, 1007.  
—, crepe effect using, 2334.  
—, dye solvent, 749.  
—, dye stripped using, 2320.  
—, electric insulation made using, 1803.  
—, esters manufactured in presence of, 580.  
—, ethylbenzylcellulose solvent, 278, 1345.  
—, ethylbutylcellulose solvent, 278, 1345.  
—, ethylcellulose, crystalline, solvent, 1336.  
—, ethylcellulose combined with, 2410.  
—, ethylcellulose solvent, 19, 230, 278, 1226, 1332, 1345, 1437, 1442, 2233.  
—, ethylcellulose solvent of methyl alcohol and, 95.  
—, ethylcellulose viscosity reduced by, 224.  
—, ethyl phthalate with, as solvent, 52.  
—, fabric coated using, 2486.  
—, fiber coated with cellulose eacetate and, 649.  
—, filament, artificial, made using, 1001.  
—, film made using, 2514, 2516, 2522, 2529.  
—, film, photographic, made using, 1803.  
—, finish remover made using, 1803.  
—, flash point, 2060.  
—, floor covering made using, 2437.  
—, formic acid concentrated using, 830.  
—, formic acid and acetic acid separated by, 1000.  
—, furfural and as cellulose acetate solvent, 580.  
—, glass, window, made using, 2533.  
—, hollow filaments produced using, 2365.  
—, insulator containing, 2442.  
—, lacquer containing, 1572, 1803, 2392, 2395, 2399, 2406, 2413, 2424, 2428.  
—, magnesium naphthenate solvent of, 107.



- Benzene, magnesium resinate solvent of, 107.  
—, metal coated using, 790.  
—, methylcellulose solvent, 278, 1345.  
—, methylcellulose viscosity reduced by, 224.  
—, methyl sulfate solvent, 28.  
—, monobenzylcellulose solvent, 1518.  
—, motor fuel made using, 1803.  
—, paint made using, 1803.  
—, paint remover made using, 1803.  
—, phenol-aldehyde made using, 1803.  
—, phenyl phthalate with, as solvent, 52.  
—, plastic made containing, 2563, 2572.  
—, potassium naphthenate solvent of, 107.  
—, potassium resinate solvent of, 107.  
—, propionic acid extracted using, 605.  
—, propylbenzylcellulose solvent, 278, 1345.  
—, propylcellulose solvent, 278, 1345.  
—, recovery, process for, 528.  
—, resinous products from, 1572.  
—, rubber combined with, 2410.  
—, sensitizer solvent, 241.  
—, sodium naphthenate solvent of, 107.  
—, sodium resinate solvent of, 107.  
—, solubilizing agent, 2213, 2219.  
—, solvent for, 1849.  
—, solvent power of, 595.  
—, starch ether solvent, 1483.  
—, stencil sheet made using, 2495.  
—, sucrose, benzylated, solvent, 1517.  
—, triethylcellulose crystallized from, 116.  
—, trimethylcellulose solvent, 1315, 1319.  
—, triphenyl phosphate and as solvent, 1902.  
—, varnish made using, 1803.  
—, viscosity cellulose acetate dissolved in, 595.  
—, wood coated using, 790.  
—, zinc naphthenate solvent of, 107.  
—, zinc resinate solvent of, 107.  
Benzene-alcohol, alkylcellulose solvent, 1426.  
Benzene-alcohol, benzylcellulose solvent, 10, 1545, 1588.  
—, cellulose benzoate solvent, 1021.  
—, dilution ratios, 1787.  
—, ethylcellulose solvent, 1423, 1439, 1442, 2233.  
*Benzeneazobenzene*, see *Azobenzene*.  
Benzeneazobenzeneazo-*b*-naphthol, cellulose acetate dyed using, 499, 2228.  
—, cellulose ether dyed using, 2228.  
4-Benzeneazo-2,6-dinitro-4'-sulfodiphenylamine, cellulose ester dyed with, 157.  
—, cellulose ether dyed using, 2295.  
4-Benzeneazo-2',6'-dinitro-4'-sulfodiphenylamine, cellulose ether dyed by, 122, 157.  
Benzeneazonaphthaleneazo-*a*-naphthylamine, cellulose acetate dyed with, 640.  
Benzeneazo-1-naphthalene-4-azophenol, cellulose ether dyed using, 2323.  
Benzeneazo-*a*-naphthylamine, cellulose acetate dyed with, 640, 937.  
Benzeneazo-*b*-naphthylamine, cellulose ether dyed using, 2254.  
Benzeneazo-*a*-naphthylamine chloride, cellulose ether dyed using, 2270.  
4-Benzeneazo-4'-nitro-2-sulfodiphenylamine, cellulose ester dyed with, 157.  
—, cellulose ether dyed using, 157.  
4-Benzeneazo-4'-nitro-2'-sulfodiphenylamine, cellulose ether dyed by, 122, 2295.  
Benzeneazophenylmethylpyrazolone, cellulose acetate dyed using, 684.  
—, cellulose ether dyeing using, 2238.  
Benzene-azo-1-phenyl-3-methyl-5-pyrazolone, cellulose ether dyed using, 2285, 2308.  
Benzene bichloride, 1826.  
Benzene-*o*-chloranilid, 2043.  
Benzene-dialkylsulfonamide, methyl sulfate in mfr. of, 1264.  
Benzene ethylsulfonamide, properties, 2036.  
*Benzenehexacarboxylic acid*, see *Mellitic acid*.  
Benzenemethylethylsulfonamide, 2029, 2038, 2040.

- Benzenemethylethylsulfonamide**, benzylcellulose plastifier, 59.  
—, cellulose ether plastifier, 59.  
—, cellulose nitrate plastifier, 59.  
—, chlorethylcellulose plasticizer, 1595.  
—, ethylbenzylcellulose plastifier, 59.  
—, ethylcellulose plastifier, 59.  
—, methoxybenzyl cellulose plasticizer, 1595.  
—, methylbenzylcellulose plasticizer, 1595.  
—, methylcellulose plastifier, 59.  
—, nitrobenzylcellulose plasticizer, 1595.  
**Benzenemethylsulfonamide**, properties, 2036.  
**Benzenemonomethylsulfonamide**, 2038, 2040.  
—, benzylcellulose plastifier, 59.  
—, cellulose acetate plastifier, 520.  
—, cellulose ether plastifier, 59.  
—, cellulose nitrate plastifier, 59.  
—, chlorethylcellulose plasticizer, 1595.  
—, ethylbenzylcellulose plastifier, 59.  
—, ethylcellulose plastifier, 59.  
—, methoxybenzylcellulose plasticizer, 1595.  
—, methylbenzylcellulose plasticizer, 1595.  
—, methylcellulose plastifier, 59.  
—, nitrobenzylcellulose plasticizer, 1595.  
**Benzene-oxysulfonic acid**, tannin made with, 1427.  
**Benzene-o-phenetidin**, 2043.  
**Benzene-p-phenetidin**, 2043.  
**Benzenephynylsulfonate**, 2042.  
**Benzenesulfamid**, 2043.  
**Benzenesulfanilid**, 2043.  
**Benzenesulfdiethylamid**, 2043.  
**Benzenesulfinic acid**, catalyst in acetylating, 350.  
**Benzenesulfoacid-p-cresol**, 2043.  
**Benzenesulfoacid-b-naphthol**, 2043.  
**Benzenesulfoacidphenyl ether**, 2043.  
**Benzenesulfochloride**, 1685, 1756.  
—, aminocellulose made with, 123.  
**Benzenesulfodiphenylamin**, 2043.  
**Benzenesulfoethylamid**, 2043.  
**Benzenesulfoethylanilid**, 2043.  
**Benzenesulfomethylanilid**, 2043.  
**Benzenesulfonamide**, 2037, 2630.  
—, acetaldehyde condensate of, 173.  
**Benzenesulfonamide**, aldehyde condensate of, 173.  
—, aviation fabric containing, 430.  
—, cellulose acetate solvent, 1818, 1819, 1843.  
—, formaldehyde condensate of, 173.  
—, paraformaldehyde condensate of, 173.  
—, resin of furfural and, 259.  
**Benzenesulfonamide-aldehyde resin**, plastic containing, 2570.  
**Benzenesulfonamideformaldehyde resin**, 2053, 2054, 2375.  
—, cellulose ester combined with, 270.  
—, cellulose ether combined with, 270.  
**Benzene-sulfonamide resin**, cellulose ether and, 259.  
**Benzenesulfonanilid**, 2024.  
—, cellulose acetate plasticizer, 742.  
—, cellulose ether plastifier, 175.  
**Benzenesulfonate**, compounds of, 2033.  
**Benzenesulfonic acid**, 538, 898, 1158, 1710, 1715, 1755, 2035, 2316.  
—, catalyst of in acetylating, 350.  
—, catalyst in cellulose acetating, 373.  
—, catalyst in cellulose esterifying, 680.  
—, catalyst in cellulose formate mfr., 904.  
—, lacquer, black, made using, 2414.  
—, printing cellulose ether using, 2323.  
—, printing paste containing, 2325.  
—, wetting agent, 2208.  
**Benzene sulfonmethylanilid**, 2025.  
**Benzene-sulfonyl chloride**, alkali-cellulose esterified by, 278.  
—, cellulose etherified by, 124.  
**Benzenesulfo-o-toluid**, 2043.  
**Benzene tetracarboxylic acid**, (1, 2, 4, 5), *see* **Pyromellitic acid**.  
**Benzene tricarboxylic acid**, (1, 2, 3), *see* **Hemimellitic acid**.  
**Benzenyltrichloramidine**, 2019.  
**Benzenyl trichloride**, *see* **Benzotrichloride**.  
**Benzhydrol**, cellulose acetate plasticizer, 398, 452.  
—, *see also* **Diphenyl-carbinol**.  
**Benziczin**, 1923, 1949, 1967.  
**Benzidin**, 1087.

- Benzidin, amines solvent for, 2008.  
—, cellulose acetate combined with, 533.  
—, cellulose acetate dyed using, 503, 504, 606, 2248.  
—, cellulose acetate impregnated with, 360.  
—, cellulose ether dyed with, 165, 2306.  
—, delustring by, 932.  
—, developer, 2346.  
—, dull effect produced using, 2363.  
—, matt effect produced using, 2363.  
—, pattern effect using, 2344.  
—, tetrazo compounds of, cellulose acetate dyed using, 504.  
Benzil, 1888, 1890.  
—, amines solvent for, 2008.  
—, cellulose acetate plastifier, 614.  
—, dental plate made using, 2538.  
*Benzile, see Benzil.*  
Benzine, 1800.  
—, acetic acid and formic acid separated by, 1000.  
—, benzylcellulose non-solvent, 230.  
—, benzylcellulose solvent, 278, 1345.  
—, butylbenzylcellulose solvent, 278, 1345.  
—, butylcellulose solvent, 278, 1345.  
—, cellulose acetate solubility, 1345.  
—, cellulose acetobutyrate, solubility, 1345.  
—, cellulose acetobutyrolaurate, solubility, 1345.  
—, cellulose acetolaurate, solubility, 1345.  
—, cellulose acetopropionate, solubility, 1345.  
—, cellulose butyrate, solubility, 1345.  
—, cellulose butyrolaurate, solubility, 1345.  
—, cellulose capronate, solubility, 1345.  
—, cellulose ether non-solvent, 230, 244.  
—, cellulose ether solvent, 8, 1447.  
—, cellulose formate, solubility, 1345.  
—, cellulose laurate, solubility, 1345.  
—, cellulose laurate for drying, 888.  
—, cellulose naphthenate, solubility, 1345.  
Benzine, cellulose naphthenate-laurate, solubility, 1345.  
—, cellulose naphthenate-oleate-laurate, solubility, 1345.  
—, cellulose palmitate for drying, 888.  
—, cellulose pelargonate, solubility, 1345.  
—, cellulose propionate, solubility, 1345.  
—, cellulose stearate, solubility, 1345.  
—, cellulose stearate for drying, 888.  
—, cellulose valerate, solubility, 1345.  
—, delustring with, 2190.  
—, ethylbenzylcellulose solvent, 278, 1345.  
—, ethylbutylcellulose solvent, 278, 1345.  
—, ethylcellulose lacquer containing, 2411.  
—, ethylcellulose non-solvent, 230.  
—, ethylcellulose solvent, 278, 1345.  
—, fixing agent, 282.  
—, formic acid and acetic acid separated by, 1000.  
—, methylcellulose solvent, 278, 1345.  
—, propylbenzylcellulose solvent, 278, 1345.  
—, propylcellulose solvent, 278, 1345.  
Benzine chloride, plastic made containing, 2566.  
*Benzinoform, see Carbon tetrachloride.*  
Benzoale, 1734.  
Benzoate chloride, 1395.  
Benzo brown G, cellulose acetate dyed using, 1025.  
—, cellulose ester dyed with, 195, 197.  
—, cellulose ether dyed with, 195, 197.  
*Benzinoform, see Tetrachloromethane.*  
Benzo-o-anisidid, 2021.  
Benzochlorhydrin, 1844, 1925, 1961.  
Benzodiacetin, 1844, 1925, 1961.  
*Benzoglycollic acid, see Mandelic acid.*  
Benzohydrol, camphor substitute, 2050.  
Benzoic acid, 5, 7, 1654, 1655, 1660, 1755, 1793, 1894.

- Benzoic acid, amines solvent for, 2008.  
 —, benzyl chloride in mfr., 1297.  
 —, cellulose acetate delustred by, 722.  
 —, cellulose acetate dyed using, 665, 2235.  
 —, cellulose ether color discharged by, 218.  
 —, cellulose ether solvent, 68.  
 —, crystal effects produced with, 2429, 2430.  
 —, delustring using, 2197.  
 —, flash point, 2060.  
 —, lacquer containing, 645.  
 —, paper coated with nitrocellulose and, 645.  
 —, silk dyed using, 665.  
*Benzoic aldehyde, see Benzaldehyde.*  
 Benzoic anhydride, 1660, 1964.  
 —, cellulose treated with, 2314.  
 Benzoic esters, 1957.  
*Benzoic ether, see Ethyl benzoate.*  
 Benzoic sulfide, amines solvent for, 2008.  
*Benzoic trichloride, see Benzotrichloride.*  
 Benzoin, 2, 1888, 2054.  
 —, amines solvent for, 2009.  
 —, cellulose acetate plastifier, 614.  
 —, dental plate made using, 2538.  
 —, glass, laminated, made using, 994, 2586.  
 —, (Phenylbenzoyl carbinol) is not Benzoin.  
*Benzol, see Benzene.*  
 "50% Benzol," cellulose ether solvent, 1802.  
 "90% Benzol," cellulose ether solvent, 1802.  
 Benzol 100%, cellulose ether solvent, 1802.  
*Benzolazoaniline, see Diazo amido-benzene.*  
 Benzoline, 1800.  
 —, *see also Benzine.*  
 Benzolsulfinic acid, catalyst in cellulose acetating, 351.  
 Benzo monoacetin, 1844, 1961.  
 Benzonaphthol, 1964.  
 —, *see also b-Naphthol benzoate.*  
 Benzonitrile, cellulose ether precipitant, 170.  
 Benzonitrite, cellulose ester coagulated by, 133.  
 —, cellulose ether coagulated by, 133, 2095.  
 Benzophenone, 1863, 1888, 1890, 2031.  
 —, amines solvent for, 2009.  
 —, cellulose acetate plasticizer, 398.  
 Benzopurpurin 4B, 944, 945.  
 Benzoquinone, cellulose ether dyed using, 2283, 2286.  
 —, *see also Quinone.*  
 Benzoquinone di-arylimide, cellulose acetate dyed using, 751.  
 Benzoquinone mono-arylimide, cellulose acetate dyed using, 751.  
*Benzosol, see Benzoylguaiacol.*  
*Benzothiophene, see Thionaphthalene.*  
 Benzotribromide, benzylcellulose treated with, 1563.  
 —, cellulose ether plastifier, 174.  
 —, cellulose ether solvent, 54.  
 Benzotrichloride, 1294, 1297, 1827.  
 —, benzyl chloride impurity, 1513.  
 —, cellulose ether solvent, 54.  
*Benzoyl acetic ether, see Ethyl benzoyl-acetate.*  
*Benzoylamidoacetic acid, see Hippuric acid.*  
 1-Benzoylamino-4-methoxyanthraquinone, cellulose ether dye, 2147.  
 2-Benzoylamino-5-naphthol-7-sulfonic acid, cellulose acetate dyed using, 845.  
 Benzoylamyl salicylate, 1944.  
 —, stencil sheet made using, 2494.  
*Benzoylanilide, see Benzanilid.*  
*Benzoylation, see Cellulose, benzoylation.*  
 Benzoylbenzoic acid, 202.  
 Benzylbenzyltetrachloranilid, 2021.  
 Benzoyl bromide, aldehyde made with, 480.  
 Benzoylbutyl tartrate, benzylcellulose solvent, 224.  
 —, cellulose acetate solvent, 628.  
 —, *p*-chlorbenzylcellulose solvent, 224.  
 —, mfr., 628.  
 —, phenylethylcellulose solvent, 224.  
 —, stencil made using, 1569.  
 —, stencil sheet made using, 2494.  
 Benzoylcarbinol, methylation of, 2.  
*Benzoylcellulose, see Cellulose benzoate.*  
 Benzoyl chloride, 4, 5, 1395, 1546, 1652, 1674, 1685, 1732, 1733, 1755, 1757, 2641.

- Benzoyl chloride, cellulose benzoylated using, 1021.  
—, cellulose dibenzoate made using, 594.  
—, cellulose ether made using, 243.  
—, cellulose treated with, 553, 2314.  
—, cotton immunized by, 907.  
—, ethyl chloride made using, 1267.  
—, linen immunized by, 907.  
—, mfr., 454.  
—, rayon immunized by, 907.  
—, strengthening cellulose acetate filament by, 1029.  
—, wood treated with, 1035.  
Benzoyl ethylaniline, 2014.  
Benzoyl ethyl citrate, stencil sheet made using, 2494.  
*Benzoyl formic acid, see Phenyl glyoxylic acid.*  
*Benzoyl glycine, see Hippuric acid.*  
*Benzoylglycocoll, see Hippuric acid.*  
Benzoylguaiacol, 1860, 1888.  
*Benzoyl hydride, see Benzaldehyde.*  
*Benzylmethide, see Hyponone.*  
Benzoyloxystearic acid esters, camphor substitute, 2050.  
Benzoyl peroxide, 1993.  
Benzoylricinoleic acid esters, camphor substitute, 2050.  
*Benzoyl salicin, see Populin.*  
*o-Benzoylsulfonamide, 2035.*  
Benzoyl-2,4,6-tribromanilid, 2020.  
—, benzylcellulose and, 1575.  
—, cellulose ether inflammability reduced by, 179.  
—, cellulose ether plasticizer, 227.  
—, fire-retardant, 1374.  
—, inflammability cellulose esters reduced by, 752.  
Benzoyltrichloronitranilid, 2022.  
Benzoylurea, 2029, 2030.  
*Benzyl, see Dibenzyl, Monobenzyl, Tribenzyl.*  
Benzyl abietate, 1911, 1954.  
—, acetone as solvent of, 1885.  
—, benzyl acetate solvent for, 1928.  
—, benzyl alcohol solvent for, 1862.  
—, butyl acetate solvent for, 1919.  
—, epichlorhydrin solvent for, 1842.  
—, ethyleneglycol monoethyl ether solvent for, 1851.  
—, ethylglycol solvent for, 1851.  
—, lacquer containing, 2397.  
—, lacquer of cellulose acetate and, 517.  
Benzyl abietate, *n*-propyl acetate solvent of, 1917.  
—, toluene solvent for, 1805.  
—, trichlorethylene solvent for, 1825.  
Benzylacetal, 1874.  
Benzylacetate, 1746, 1870, 1923, 1927, 1945, 1957, 1960, 1963, 1970, 2027.  
—, amines solvent for, 2009.  
—, cellulose acetate solvent, 813, 1818, 1819.  
—, cellulose combined with, 228.  
—, ethyl alcohol and, cellulose ether solvent, 99.  
—, flash point, 2060.  
—, mfr., 656.  
—, methyl alcohol and cellulose ether solvent, 99.  
—, plastic made with, 520.  
*Benzyl acetic acid, see also Hydrocinnamic acid.*  
Benzyl acetoacetate, 1993.  
Benzylacetone, 1890.  
—, cellulose ether solvent, 68.  
*s-Benzyl-acetylchloranilid, 2021.*  
*s-Benzyl-acetyltetrachloranilid, 2021.*  
Benzylacetyltrichloranilid, 2021.  
Benzyl alcohol, 93, 215, 561, 1053, 1084, 1091, 1432, 1511, 1539, 1667, 1761, 1769, 1822, 1862, 1888, 1930, 1931, 1938, 1945, 1957, 1958, 1960, 1963, 1968, 1983, 1993, 1998, 2006, 2027, 2032, 2046, 2421.  
—, airplane coated with, 2484.  
—, airplane fabric coated using, 485.  
—, amines solvent for, 2009.  
—, amyl lactate and, cellulose ether solvent, 93.  
—, amyl oxalate and, cellulose ether solvent, 93.  
—, benzene and as cellulose ether solvent, 1802.  
—, benzylcellulose insoluble in, 1537.  
—, benzylcellulose solvent, 178, 230, 1541, 1553, 1555.  
—, *iso*-butyl *iso*-butyrate as substitute for, 443.  
—, butyl lactate and, cellulose ether solvent, 93.  
—, butyl oxalate and, cellulose ether solvent, 93.  
—, camphor substitute, 2050.

Benzyl alcohol, cellulose acetate dissolved by, 812.  
 —, cellulose acetate lacquer containing, 443, 478.  
 —, cellulose acetate plasticizer, 398, 452, 614, 628, 1012.  
 —, cellulose acetate relustred by, 604, 636, 723.  
 —, cellulose acetate solubility in, 1042.  
 —, cellulose acetate solvent, 445, 484, 580, 1818, 1819.  
 —, cellulose ether delustred with, 185.  
 —, cellulose ether plastic with, 64.  
 —, cellulose ether plasticizer, 243.  
 —, cellulose ether solvent, 93, 99, 230, 2079.  
 —, cellulose ether water solubility decreased by, 118.  
 —, cellulose nitrate dissolved by, 812.  
 —, cellulose nitrate plasticizer, 243.  
 —, coating composition containing, 530.  
 —, cyclohexanone as substitute for, 443.  
 —, delustring with, 185, 210, 2189.  
 —, dental plate made using, 2538.  
 —, ethylcellulose, crystalline, solvent, 1336.  
 —, ethylcellulose lacquer containing, 2411.  
 —, ethylcellulose plasticizer, 151, 243.  
 —, ethylcellulose solvent, 178, 230.  
 —, ethylcellulose water-solubility diminished by, 1347.  
 —, ethyl lactate and, cellulose ether solvent, 93.  
 —, ethyl oxalate and, cellulose ether solvent, 93.  
 —, fabric coated using, 2486.  
 —, flash point, 2060.  
 —, glass, laminated, made using, 833, 2586, 2589.  
 —, —, window, made using, 2553.  
 —, lacquer containing, 727, 2396, 2420.  
 —, methylcellulose insolubilized by, 2421.  
 —, methylcellulose plasticizer, 243.  
 —, methylcellulose solvent, 178.  
 —, methylcyclohexanone as substitute for, 443.  
 —, methyl lactate and, cellulose ether solvent, 93.

Benzyl alcohol, methyl oxalate and, cellulose ether solvent, 93.  
 —, osmotic pressure measurements of cellulose acetate in, 855.  
 —, percentage composition, 1511.  
 —, physical constants, 1792.  
 —, plastic made using, 2561, 2568, 2577.  
 —, propyl lactate and, cellulose ether solvent, 93.  
 —, propyl oxalate and, cellulose ether solvent, 93.  
 —, relustring with, 2198, 2201.  
 —, relustring cellulose acetate with, 723.  
 —, resinous products from, 1572.  
 —, shoe heel made using, 525.  
 —, softener, 2215, 2216.  
 —, solvent power of, 595.  
 —, stencil sheet containing, 109, 1488, 2493, 2497.  
 —, tricresyl phosphate and as solvent, 1905.  
 —, triphenyl phosphate and as solvent, 1902.  
 —, uses, 943.  
 —, viscosity cellulose acetate in, 811, 840.  
 —, viscosity cellulose acetate dissolved in, 595.  
 —, viscosity cellulose nitrate in, 811.  
 —, wetting agents, 1235, 2207.  
 —, wooden heel made using, 525.  
*mono*-Benzyl alcohol, cellulose acetate solvent, 813.  
*o*-Benzyl alcohol, 1863.  
*p*-Benzyl alcohol, 1863.  
 Benzyl alcohol benzene, acetic acid solvent, 782.  
*Benzylamidophenylmercaptan*, see *Benzylamidothiophenol*.  
 Benzylamine, 1748, 1766.  
 —, benzyl chloride made using, 1293.  
 —, cellulose derivative made using, 250.  
 —, cellulose ether made using, 250.  
 —, cellulosexanthofatty acid treated with, 124.  
 Benzyl-*m*-aminobenzoate, 1962.  
 Benzyl *p*-aminobenzoate, 1962.  
 4 - Benzylamino-1 - methylaminoanthraquinone, cellulose ether dyed using, 2274.  
 —, sulfonated, cellulose ether dyed using, 298.

- Benzylisoamyl phthalate, 1978, 1992.  
Benzylaniline, 2014, 2017.  
—, benzylcellulose combined with, 282.  
—, benzylcellulose stabilizer, 1574.  
—, butylcellulose combined with, 282, 1340.  
—, butylcellulose stabilizer, 1574.  
—, cellulose ether solvent, 106.  
—, coating containing, 282.  
—, film containing, 282.  
—, lacquer containing, 282, 2416.  
—, stabilizer, 1574.  
Benzylanilinesulfonic acid, cellulose ether dyed using, 2251.  
N-Benzylantranilic acid, cellulose ether dyed with, 113.  
Benzyl benzoate, 1957, 1959, 1960, 1961, 1968, 1989, 2027.  
—, benzyl starch solvent, 1516.  
—, cellulose acetate plasticizer, 389, 398, 569.  
—, cellulose acetate softener, 661.  
—, cellulose acetate solvent, 406, 470, 1039, 1818, 1819.  
—, physical constants, 1793.  
—, plastic made containing, 2566.  
—, window curtain mfr. using, 820.  
*Benzyl benzol, see Diphenylmethane.*  
Benzyl bromide, 1536, 1641, 1766, 1827.  
—, benzylcellulose treated with, 1563.  
—, cellulose acetate inflammability reduced by, 743.  
—, etherifying cellulose with, 1298.  
—, cellulose ether plastifier, 174.  
—, cellulose ether solvent, 54.  
—, cresol with as plastic, 561.  
—, formaldehyde with as plastic, 561.  
—, tar-oil with as plastic, 561.  
Benzylbutyl phthalate, 1977.  
Benzylbutyltartrate, 1944.  
Benzyl butyrate, 1927, 1937, 1963.  
—, cellulose acetate solvent, 1818, 1819.  
Benzyl carbamate, 1955.  
*Benzyl carbamide, see Benzoylurea.*  
*Benzyl carbinol, see Phenyl-ethyl alcohol.*  
Benzylcellulose, 4, 152, 1296, 1512, 1524, 1552, 1667, 1827, 1987, 1994, 2006, 2028, 2029, 2033, 2040, 2054, 2141, 2169, 2446, 2622, 2623  
—, acaroid compound with, 175.  
—, acaroid with as lacquer, 178.  
—, acetone, solubility, 1345.  
—, acetone for reducing viscosity of, 224.  
—, acetone-furfural combined with, 174, 1364.  
—, acetone solvent of, 248, 278, 1879.  
—, acetone used in lacquer, 2406.  
—, acetyl-4-bromomethylanilid combined with, 227, 1574.  
—, acetyl-2.4-dibromanilid combined with, 227, 1574.  
—, acetyl-3.4-dibromanilid combined with, 227, 1574.  
—, acetyl-2.4.5-tribromanilid combined with, 227, 1574.  
—, acetyl-2.4.6-tribromanilid combined with, 227, 1574.  
—, acetyl-2.4.6-tribromomethylanilid combined with, 227.  
—, acetyl-1.3.6-tribrom-2-naphthalid combined with, 227, 1574.  
—, adhesive containing, 2598.  
—, adipic ester plastic with, 232.  
—, advancement of, 1512.  
—, ageing of, 1574.  
—, airplane coated with, 2484.  
—, alcohol solubility of, 278, 1345.  
—, Alizarine Astrol B dye for, 62.  
—, alkali-insoluble, mfr., 244.  
—, aluminum salt for loading, 137.  
—, aluminum thiocyanate for mordanting, 113.  
—, ammonium thiocyanate for mordanting, 113.  
—, amyl acetate plasticizer of, 188.  
—, analysis of, 257.  
—, Aniline Black dye for, 62.  
—, aniline-furfural combined with, 1364.  
—, antiseptic mixture containing, 1569.  
—, anthraquinonylamine ester for dyeing, 169.  
—, application of, 1517, 1567.  
—, artificial resin plastic with, 173.  
—, Azo Yellow 3G dye for, 62.  
—, basic colors for dyeing, 2234.  
—, benzene for reducing viscosity of, 224.

- Benzylcellulose, benzene solubility of, 278, 1345, 1520.  
—, benzene solvent of, 248, 1802.  
—, benzene used in lacquer, 2406.  
—, benzine solubility of, 278, 1345.  
—, benzoyl-2.4.6-tribromanilide combined with, 227, 1574.  
—, benzylacetate solvent for, 1928.  
—, benzyl alcohol solvent for, 178, 1862.  
—, benzyaniline combined with, 282.  
—, benzyl-aniline plastic of, 282.  
—, benzylcresyl ether, plastic of, with, 87.  
—, biguanide combined with, 282.  
—, biguanide plastic of, 282.  
—, bismuth salt for loading, 137.  
—, bitumen as plasticizer for, 96.  
—, blank, box toe, made using, 2473.  
—, bleaching, 1541.  
—, breakdown strength, 1566.  
—, bronzes colored for, 2477.  
—, butyl stearate plastifier for, 1576.  
—, butyl tartrate plastifier of, 188.  
—, cable, insulating, made with, 86.  
—, camphor with, 60.  
—, camphor plasticizer of, 188.  
—, camphor substitute with, 60.  
—, cap, percussion, coated with, 2471.  
—, carbazole combined with, 282.  
—, carbazole plastic of, 282.  
—, carbon bisulfide solvent for, 1797.  
—, carbonizing, 1583.  
—, celluloid made with, 86.  
—, celluloid substitute from, 178.  
—, cellulose acetate combined with, 48, 1582.  
—, cellulose ether dyed on, 2307.  
—, cellulose ether emulsified by, 214.  
—, chloretone with, 1581.  
—, chloretone as solvent for, 58, 141.  
—, chloretone stabilizer for, 1575.  
—, chloroform for reducing viscosity of, 224.  
—, chloroform solvent for, 1813.  
—, chromium thiocyanate for mordanting, 113.  
—, cigarette tip containing, 2432.  
—, clarifying, 1545.  
—, coagulating, 1582.  
Benzylcellulose, coating with, 282, 306, 1588.  
—, coating composition containing, 174.  
—, colophone compound with, 175.  
—, colophony resin with as lacquer, 234.  
—, comminuting, 1375, 1567.  
—, composition, priming, coated with, 2471.  
—, conditioning, 2143.  
—, conductor, electric, containing, 2442.  
—, —, —, insulator for, made using, 2442.  
—, confectionery coated with, 159.  
—, copal compound with, 175.  
—, copal plasticizer of, 188.  
—, copper naphthenate and as lacquer, 235.  
—, copper oleate and as lacquer, 235.  
—, coumarone, polymerized, plasticizer for, 1575.  
—, coumarone resin plasticizer, 174.  
—, crepe effect on, 270.  
—, cresyldiethyl phosphate plastifier for, 1575.  
—, cresyldimethyl phosphate plasticizer for, 1575.  
—, cumar solvent of, 293.  
—, dammar compound with, 175.  
—, dammar with as lacquer, 178.  
—, decorative effect with, 164.  
—, delustring, resistance to, 305.  
—, dental plastic containing, 249.  
—, dental plate made using, 2539.  
—, desizing, 2143.  
—, diacetyl-3.5-dibrom-2-toluide combined with, 227, 1574.  
—, diacetyl-2.4.6-tribromanilid combined with, 227.  
—, diacetyl-2.4.6-tribrommethyl anilid and, 1574.  
—, diarylethanes, unsymmetrical, stabilizer for, 1575.  
—, dibenzyaniline combined with, 282.  
—, dibenzyaniline plastic of, 282.  
—, dibutyl phthalate plastifier for, 1576.  
—, dibutyl tartrate combined with, 1364.  
—, dibutyl tartrate for reducing viscosity of, 224.  
—, dichlorethane solvent for, 1816.



- Benzylcellulose, dicresylethyl phosphate plastifier for, 1575.  
 —, dicresylmethyl phosphate plastifier for, 1575.  
 —, dielectric constant, 1565.  
 —, dielectric strength, 1566.  
 —, diethylene glycolmonoethylether solvent of, 293.  
 —, diethyl phthalate combined with, 1364.  
 —, diethyl phthalate plastifier for, 102, 1578.  
 —, diethylphthalate for reducing viscosity of, 224.  
 —, diethylphthalate solvent of, 248.  
 —, dinitrodiphenylmethane plasticizer of, 188.  
 —, dinitrodiphenylethane stabilizer for, 1575.  
 —, dioxane solvent for, 1876.  
 —, diphenol-propane-aldehyde combined with, 1364.  
 —, diphenylethane plasticizer of, 188.  
 —, diphenylethane stabilizer for, 1575.  
 —, diphenylethyl phosphate plastifier for, 1575.  
 —, diphenylmethyl phosphate plastifier for, 1575.  
 —, diphenylol-aldehyde comined with, 174.  
 —, diphenylol-cyclohexane combined with, 1574.  
 —, diphenylolcycloparaffin combined with, 1574.  
 —, diphenylol-propane-ketone combined with, 174.  
 —, diphenylol propane solvent for, 175.  
 —, ditolyethane plasticizer of, 188.  
 —, ditolyethane stabilizer for, 1575.  
 —, dixylyethane plasticizer for, 188.  
 —, dixylyethane stabilizer for, 1575.  
 —, dyeing, 123, 137, 143, 285, 1584, 1586, 2225, 2230.  
 —, —, diethylene glycol used in, 178.  
 —, —, diethyleneglycol monoethyl ether used in, 178.  
 —, —, ethylene glycol used in, 178.  
 —, —, ethyleneglycol monoethyl ether used in, 178.  
 —, dyeing with basic colors, 2234.  
 Benzylcellulose, elasticity of, 295.  
 —, electrical resistivity, 1566.  
 —, electrodeposition of, 103.  
 —, emulsifying, 214, 1567.  
 —, —, methylcellulose for, 1581.  
 —, emulsions, 1569.  
 —, enamel of, 224.  
 —, etherifying, 1419.  
 —, ether solubility of, 278, 1345.  
 —, ether used in lacquer, 2406.  
 —, ethyl abietate solvent of, 293.  
 —, ethyl acetate solubility of, 278, 1345.  
 —, ethyl acetate solvent for, 178, 248.  
 —, ethyl acetate used in lacquer, 2406.  
 —, ethyl alcohol used in lacquer, 2406.  
 —, *N*-ethylcarbazole combined with, 282.  
 —, *N*-ethylcarbazole plastic of, 282.  
 —, ethyleneglycol diacetate plasticizer of, 188.  
 —, ethyleneglycol monoethyl ether solvent for, 1851.  
 —, ethylglycol solvent for, 1851.  
 —, ethyl lactate solvent for, 178, 293.  
 —, extensibility of, 1518, 1520.  
 —, fabric, dyeing, 637.  
 —, —, meshed, coated with, 2518.  
 —, —, open work, manufacture, 304.  
 —, —, printing, 637, 2328.  
 —, —, stencilling, 637.  
 —, —, stiffening, 2353.  
 —, fabric coated using, 2484.  
 —, fabric protected with, 297, 1570, 2463.  
 —, filaments from, 49, 1582.  
 —, —, manufacture of, 269, 2077, 2078.  
 —, filler containing, 2480.  
 —, film made using, 2519, 2882.  
 —, film, matt finish on, 2195.  
 —, —, photographic, of, 64.  
 —, —, thin, manufacture of, 223.  
 —, filtering, 2098.  
 —, filter made from, 1585.  
 —, filter waste from, using, 1547.  
 —, flexibility, increasing, 1567.  
 —, floor covering made using, 171, 1579.  
 —, formaldehyde combined with, 266.  
 —, furfural solvent for, 1996.

- Benzylcellulose, furyl alcohol plasticizer of, 188.  
—, gasproofing, 107, 110, 1583.  
—, glass, laminated, made using, 294, 2591.  
—, glass sheets united by diphenylol propane and, 175.  
—, glass sheets united using, 1570.  
—, glyceryl abietate with, 1576.  
—, glyceryl abietate lacquer with, 234.  
—, glyceryl chlorophthalate with, 1576.  
—, glyceryl chlorophthalate lacquer with, 234.  
—, glyceryl diglycollate with, 1576.  
—, glyceryl diglycollate lacquer with, 234.  
—, glyceryl formate as solvent for, 158.  
—, glyceryl laurate with, 1576.  
—, glyceryl laurate lacquer with, 234.  
—, glyceryl linoleate with, 1576.  
—, glyceryl linoleate lacquer with, 234.  
—, glyceryl maleate with, 1576.  
—, glyceryl maleate lacquer with, 234.  
—, glyceryl naphthenate with, 1576.  
—, glyceryl naphthenate lacquer with, 234.  
—, glyceryl phthalate with, 1576.  
—, glyceryl phthalate lacquer with, 234.  
—, glyceryl resin with as lacquer, 234.  
—, glyceryl ricinoleate with, 1576.  
—, glyceryl ricinoleate lacquer with, 234.  
—, glyceryl salicylacetate with, 1576.  
—, glyceryl salicylacetate lacquer with, 234.  
—, glyceryl succinate with, 1576.  
—, glyceryl succinate lacquer with, 234.  
—, glycol diformate as solvent for, 158.  
—, glycol monoformate as solvent for, 158.  
—, graphite combined with, 2543.  
—, guanidine combined with, 282.  
—, guanidine plastic of, 282.  
—, gunpowder coated with, 158.  
—, gunpowder made using, 2470.  
Benzylcellulose, horn, artificial, made using, 297, 1579, 2607.  
—, 1-*b*-hydroxyethylamino-4-aminoanthraquinone sulfate for dyeing, 169.  
—, 1-*b*-hydroxyethylaminoanthraquinone sulfate for dyeing, 169.  
—, 1-*b*-hydroxyethylamino-2-bromo-4-amino-anthraquinone sulfate for dyeing, 169.  
—, 1-*b*-hydroxyethylamino-4-methylaminoanthraquinone sulfate for dyeing, 169.  
—, 1-*b*-hydroxyethylamino-2-methylantraquinone sulfate for dyeing, 169.  
—, 1-*b*-hydroxyethylamino-4-hydroxyanthraquinone sulfate for dyeing, 169.  
—, hygroscopicity, 1552.  
—, igniter coated with, 2471.  
—, inflammability, 1561.  
—, —, reducing, 304.  
—, insulating with, 176, 295, 2441.  
—, insulator containing, 2442, 2444.  
—, ironing, 1587.  
—, iron(ic) laurate and as lacquer, 235.  
—, iron(ic) resinate and as lacquer, 235.  
—, iron(ic) stearate and as lacquer, 235.  
—, iron thiocyanate for mordanting, 113.  
—, irradiation of, 1565.  
—, isolating, 109, 1538, 1539.  
—, kauri compound with, 175.  
—, kauri with as lacquer, 178.  
—, lacquer containing, 136, 158, 178, 235, 260, 282, 1572, 1588, 2403, 2405, 2413, 2419, 2426, 2428.  
—, lacquer, colored, containing, 2425.  
—, —, low viscosity, 2406, 2407.  
—, —, mfr. of, 1589.  
—, —, ship bottom, containing, 2419.  
—, —, wood, containing, 1580.  
—, latex, rubber, combined with, 2543.  
—, lead naphthenate and as lacquer, 235.  
—, leather, artificial, made with, 86.  
—, —, —, matt finish on, 2195.  
—, leather protected with, 297, 1570, 2463.

- Benzylcellulose, linoxyn with as lacquer, 193.  
 —, loading, 137, 1584.  
 —, low viscosity, 174.  
 —, —, mfr., 306.  
 —, Magenta dye for, 62.  
 —, Malachite Green dye for, 62.  
 —, maleic acid with as lacquer, 234.  
 —, manila compound with, 175.  
 —, manila with as lacquer, 178.  
 —, mannol plastifier for, 102, 1578.  
 —, mfr. of, 10, 39, 45, 58, 69, 171, 184, 204, 206, 207, 214, 233, 240, 244, 247, 257, 292, 293, 295, 302, 306, 1432, 1535, 1604, 1617, 1626, 2314, 2494.  
 —, matt finish on, 2195, 2198.  
 —, melting point of raised, 136.  
 —, methyl acetate used in lacquer, 2406.  
 —, methyl alcohol used in lacquer, 2406.  
 —, Methylene Blue B dye for, 62.  
 —, methylethyl ketone for reducing viscosity of, 224.  
 —, methylhexalin plastifier for, 1576.  
 —, Methyl Violet dye for, 62.  
 —, mixed, 1536.  
 —, mixed ethers, 1591.  
 —, moldable, 1575.  
 —, molding, 1556.  
 —, molding powder containing, 2645.  
 —, monobutyl phthalate plastifier for, 1576.  
 —, mordanting, 137, 1587.  
 —, naphtha solvent plasticizer for, 86.  
 —, *b*-naphthylbiguanide and for lacquer mfr., 2416.  
 —, *b*-naphthylbiguanide combined with, 282.  
 —, *b*-naphthylbiguanide plastic of, 282.  
 —, Nigrosine B dye for, 62.  
 —, nitrating, 1675.  
 —, 4-nitrobenzeneazo-*p*-xylydine for dyeing, 2238.  
 —, nitrobenzene plastifier for, 102, 1578.  
 —, 2-nitro-4-chlor-4'-methyl-diphenylamine for dyeing, 2238.  
 —, 4-nitro-2-methoxybenzenazodimethyl-aniline for dyeing, 2238.  
 —, 4-nitro-2-methoxybenzenazodimethyl-aniline for dyeing, 2238.  
 Benzylcellulose, non-chalking composition containing, 1580.  
 —, oils and for varnish, 266.  
 —, Orange II dye for, 62.  
 —, osmotic pressure, 1566.  
 —, oxyn with as lacquer, 193.  
 —, package dyeing for, 2307.  
 —, paint containing, 1585.  
 —, paint, washable, made using, 2409.  
 —, palmitic acid with as lacquer, 234.  
 —, paracoumarone plastifier for, 1576.  
 —, Paramine Brown dye for, 62.  
 —, paste condition, 1375.  
 —, pattern effects on, 104.  
 —, pentaerythritol abietate with, 1576.  
 —, pentaerythritol abietate lacquer with, 234.  
 —, pentaerythritol chlorophthalate with, 1576.  
 —, pentaerythritol chlorophthalate lacquer with, 234.  
 —, pentaerythritol diglycollate with, 1576.  
 —, pentaerythritol diglycollate lacquer with, 234.  
 —, pentaerythritol laurate with, 1576.  
 —, pentaerythritol laurate lacquer with, 234.  
 —, pentaerythritol linoleate with, 1576.  
 —, pentaerythritol linoleate lacquer with, 234.  
 —, pentaerythritol maleate with, 1576.  
 —, pentaerythritol maleate lacquer with, 234.  
 —, pentaerythritol naphthenate with, 1576.  
 —, pentaerythritol naphthenate lacquer with, 234.  
 —, pentaerythritol phthalate with, 1576.  
 —, pentaerythritol phthalate lacquer with, 234.  
 —, pentaerythritol ricinoleate with, 1576.  
 —, pentaerythritol ricinoleate lacquer with, 234.  
 —, pentaerythritol salicylacetate with, 1576.  
 —, pentaerythritol salicylacetate lacquer with, 234.

Benzylcellulose, pentaerythritol succinate with, 1576.  
 —, pentaerythritol succinate lacquer with, 234.  
 —, percentage elongation, 1565.  
 —, phenol-aldehydes combined with, 1364.  
 —, phenol-furfural combined with, 1364.  
 —, phenyldiethyl phosphate plastifier for, 1575.  
 —, phenyldimethyl phosphate plastifier for, 1575.  
 —, phosphoric acid is deposition of, 103.  
 —, *m*-phosphoric acid in mfr. of, 140.  
 —, *o*-phosphoric acid in mfr. of, 140.  
 —, phosphorous acid in deposition of, 103.  
 —, phthalic anhydride-glycerol resin plasticizer, 174.  
 —, plastic, mfr., 162.  
 —, plastic containing, 101, 249, 1581, 2546, 2556, 2570, 2571, 2573, 2581, 2645.  
 —, plasticity of, 1555.  
 —, plastic of artificial resin and, 173.  
 —, plastics with, 46.  
 —, plastifier, 126.  
 —, plates reinforced by, 1570.  
 —, plywood made using, 2597.  
 —, pontianac compound with, 175.  
 —, pontianac with as lacquer, 178.  
 —, potassium thiocyanate for mordanting, 113.  
 —, powdering, 1567.  
 —, power loss, 1566.  
 —, primer coated with, 2471.  
 —, primer containing, 2480.  
 —, properties of, 102, 212, 1520, 1551.  
 —, Prussian blue coloring for, 2477.  
 —, purifying, 93, 109, 122, 171, 214, 1538, 1541, 1546, 1550.  
 —, record, phonograph, made using, 2605.  
 —, residues, using, 1547.  
 —, resins and for varnish, 266.  
 —, resins combined with, 266, 1573.  
 —, resistance to rupture, 1566.  
 —, resorcinol diacetate plastifier for, 102, 1578.  
 —, ribbon, mfr., 272.  
 —, Rocelline dye for, 62.

Benzylcellulose, rosin, glycerol ester of, with as lacquer, 178.  
 —, rosin compound with, 175.  
 —, rubber plastic with, 232.  
 —, sheets of, mfr. of, 1587.  
 —, sheets reinforced by, 1570.  
 —, shellac compound with, 175.  
 —, shellac plasticizer of, 188.  
 —, shells, shotgun, waterproofed with, 2413, 2414.  
 —, —, waterproofing of with, 2413.  
 —, silk, matt finish on, 2195.  
 —, sizing, 2139.  
 —, skin protected with, 297, 1570, 2463.  
 —, sodium butylnaphthalenesulfonate plastifier for, 1576.  
 —, sodium thiocyanate for mordanting, 113.  
 —, softener for, 1589.  
 —, softness, increasing, 1567.  
 —, solubility of, 10, 207, 1512, 1514, 1536, 1537, 1545, 1551, 1553, 1589.  
 —, —, increasing, 177, 245.  
 —, solvents for, 1553, 1555, 2643.  
 —, sorbitol abietate with, 1576.  
 —, sorbitol abietate lacquer with, 234.  
 —, sorbitol chlorphthalate with, 1576.  
 —, sorbitol chlorphthalate lacquer with, 234.  
 —, sorbitol diglycollate with, 1576.  
 —, sorbitol diglycollate lacquer with, 234.  
 —, sorbitol laurate with, 1576.  
 —, sorbitol laurate lacquer with, 234.  
 —, sorbitol linoleate with, 1576.  
 —, sorbitol linoleate lacquer with, 234.  
 —, sorbitol maleate with, 1576.  
 —, sorbitol maleate lacquer with, 234.  
 —, sorbitol naphthenate with, 1576.  
 —, sorbitol naphthenate lacquer with, 234.  
 —, sorbitol phthalate with, 1576.  
 —, sorbitol phthalate lacquer with, 234.  
 —, sorbitol ricinoleate with, 1576.  
 —, sorbitol ricinoleate lacquer with, 234.  
 —, sorbitol salicylacetate with, 1576.  
 —, sorbitol salicylacetate lacquer with, 234.

- Benzylcellulose, sorbitol succinate with, 1576.  
—, sorbitol succinate lacquer with, 234.  
—, sound insulation using, 2439.  
—, spinning solutions of, 259, 2107.  
—, stability, 1555, 1563.  
—, stabilizing, 1574.  
—, stencil made with, 224, 1569.  
—, stencil sheet made using, 2493, 2494, 2495.  
—, stretching of, 1342.  
—, sweetmeats coated with, 159.  
—, swelling, 204.  
—, tannin for loading, 137.  
—, tape, mfr., 272.  
—, tar oils plastic with, 46.  
—, tearing strength of, 1342.  
—, tetrachloranthracene solvent for, 1828.  
—, tetrachlorethane solvent, 178.  
—, tetrachloronaphthalene solvent for, 1828.  
—, textiles, metallization of, using, 2361.  
—, thermoplasticity of, 1555.  
—, Thioflavine T dye for, 62.  
—, tin salt for loading, 137.  
—, titanium oxide colored for, 2477.  
—, toluene solvent of, 248, 1804.  
—, toluene sulfonamide combined with, 266.  
—, *p*-toluenesulfonamide plastifier for, 102, 1578.  
—, toluene used in lacquer, 2406.  
—, transfer, multicolor, made using, 2549.  
—, transfer base containing, 246.  
—, transfer made using, 2548, 2549, 2551.  
—, triacetin plastifier for, 102, 188, 1578.  
—, tribromcresyl acetate fire retardant, 304.  
—, tribromcresyl formate fire retardant, 304.  
—, tribromcresyl propionate fire retardant, 304.  
—, tribromnaphthyl acetate fire retardant, 304.  
—, tribromnaphthyl formate fire retardant, 304.  
—, tribromnaphthyl propionate fire retardant, 304.  
—, tribromphenyl acetate fire retardant, 304.  
Benzylcellulose, tribromphenyl formate fire retardant, 304.  
—, tribromphenyl propionate fire retardant, 304.  
—, tribromxylenyl acetate fire retardant, 304.  
—, tribromxylenyl formate fire retardant, 304.  
—, tribromxylenyl propionate fire retardant, 304.  
—, trichloranthracene solvent for, 1828.  
—, trichlorcresyl acetate fire retardant, 304.  
—, trichlorcresyl formate fire retardant, 304.  
—, trichlorcresyl propionate fire retardant, 304.  
—, trichloronaphthalene solvent for, 1828.  
—, trichloronaphthyl acetate fire retardant, 304.  
—, trichloronaphthyl formate fire retardant, 304.  
—, trichloronaphthyl propionate fire retardant, 304.  
—, trichlorphenyl acetate fire retardant, 304.  
—, trichlorphenyl formate fire retardant, 304.  
—, trichlorphenyl propionate fire retardant, 304.  
—, trichlorxylenyl acetate fire retardant, 304.  
—, trichlorxylenyl formate fire retardant, 304.  
—, trichlorxylenyl propionate fire retardant, 304.  
—, tricresyl phosphate combined with, 1364.  
—, tricresyl phosphate for reducing viscosity of, 224.  
—, tricresyl phosphate plastifier for, 102, 1575, 1579.  
—, triiodocresyl acetate fire retardant, 304.  
—, triiodocresyl formate fire retardant, 304.  
—, triiodocresyl propionate fire retardant, 304.  
—, triiodonaphthyl acetate fire retardant, 304.  
—, triiodonaphthyl formate fire retardant, 304.  
—, triiodonaphthyl propionate fire retardant, 304.

- Benzylcellulose, triiodophenyl acetate fire retardant, 304.  
 —, triiodophenyl formate fire retardant, 304.  
 —, triiodophenyl propionate fire retardant, 304.  
 —, triiodoxylenyl acetate fire retardant, 304.  
 —, triiodoxylenyl formate fire retardant, 304.  
 —, triiodoxylenyl propionate fire retardant, 304.  
 —, triphenylguanidine combined with, 282.  
 —, triphenylguanidine plastic of, 282.  
 —, triphenylphosphate combined with, 1364.  
 —, triphenylphosphate plastifier for, 1575, 1579.  
 —, tubular threads of, mfr., 213.  
 —, tungsten salt for loading, 137.  
 —, urea derivative stabilizer for, 102.  
 —, urea plasticizer for, 1578.  
 —, urea stabilizer for, 102.  
 —, uses, 2645.  
 —, varnish from, 10, 266.  
 —, varnish, matt finish on, 2195.  
 —, vinyl acetate as gel for, 183.  
 —, vinyl bromide as gel for, 183.  
 —, vinyl chloride as gel for, 183.  
 —, vinyl phosphate as gel for, 183.  
 —, vinyl phthalate as gel for, 183.  
 —, vinyl propionate as gel for, 183.  
 —, viscose in mfr. of, 206.  
 —, viscosity, 212, 1544, 1551, 1557.  
 —, —, lowering, 1545, 1558, 1560.  
 —, —, reducing, 140, 224, 2092, 2407.  
 —, —, —, acetic acid for, 1360, 1363.  
 —, —, —, acid for, 1359.  
 —, —, —, alkali for, 1363.  
 —, —, —, aluminum chloride for, 1365.  
 —, —, —, aluminum resinate for, 1365.  
 —, —, —, aluminum sulfate for, 1365.  
 —, —, —, copper for, 1365.  
 —, —, —, heat for, 1360, 1364.  
 —, —, —, hydrochloric acid for, 1361.  
 —, —, —, incubation for, 1360.  
 —, —, —, magnesium oleate for, 1365.  
 Benzylcellulose, viscosity, reducing, nitric acid for, 1361, 1363.  
 —, —, —, oxalic acid for, 1362.  
 —, —, —, ozone for, 1363.  
 —, —, —, phosphoric acid for, 1362.  
 —, —, —, sodium acid sulfate for, 1360.  
 —, —, —, solvent evaporation, 1365.  
 —, —, —, sulfuric acid for, 1362.  
 —, —, —, triethanolamine for, 1365.  
 —, —, —, water for, 1364.  
 —, —, —, zinc for, 1365.  
 —, —, —, zinc chloride for, 1362.  
 —, viscosity (low), mfr., 306.  
 —, wall covering of, 171, 1579.  
 —, waterproofing, 107, 110, 202, 1583, 2157, 2158.  
 —, water resistance, 1551.  
 —, water solubility of, 278, 1345.  
 —, webs reinforced by, 1570.  
 —, wire, coating of, using, 2555.  
 —, wood cellulose for mfr. of, 290.  
 —, wood treated with, 233.  
 —, wrapping tissue made using, 2527.  
 —, xylene-alkylsulfonamide plastifier for, 102, 1578.  
 —, xylene solvent of, 248.  
 —, *m*-xylylethane plastic of, with, 87.  
 —, zinc oxide combined with, 2543.  
 —, zinc salt for loading, 137.  
 —, *see also* *Dibenzylcellulose*; *Monobenzylcellulose*; *Tribenzylcellulose*.  
 1.5-Benzylcellulose, 1516.  
 2.4-Benzylcellulose, mfr., 1626.  
 Benzylcellulose abietate, mfr., 1602.  
 Benzylcellulose acetate, 1749.  
 —, inflammability, 1561.  
 Benzylcellulose benzoate, mfr., 1602, 1749.  
 Benzylcellulose butyrate, mfr., 1749.  
 Benzylcellulose esters, mfr., 1599.  
 Benzylcellulose film, matt surface of, 268.  
 Benzylcellulose formate, mfr., 1749.  
 Benzylcellulose laurate, mfr., 1602.  
 Benzylcellulose linoleate, mfr. of, 237, 1601.  
 Benzylcellulose nitrate, ammonium bromide for reducing inflammability of, 177.  
 —, ammonium phosphate for reducing inflammability of, 177.  
 —, mfr. of, 177, 1600.

- Benzylcellulose oleate, mfr., 1602.  
Benzylcellulose palmitate, mfr., 1602.  
Benzylcellulose phenylacetate, mfr., 1602.  
Benzylcellulose phenylurethane, 91, 1604.  
Benzylcellulose propionate, 1749.  
Benzylcellulose salicylate, mfr., 1602.  
Benzylcellulose stearate, mfr., 1602.  
Benzylcellulose sulfonate, cellulose etherified by, 1602.  
—, mfr. of, 123, 253, 1602, 1603.  
Benzylcellulose thiourethane, 1645.  
Benzylcellulose tolylurethane, 91, 1604.  
Benzylcellulose undecylate, mfr., 1602.  
Benzylcellulose xanthanilid, 1644.  
Benzylcellulose xantholuidid, 1644.  
Benzylcellulose xylylurethane, 91.  
Benzylchlorbenzylcellulose, mfr., 1595, 1608.  
Benzylchlorbenzyl lactate, 1946.  
Benzylchloride, 4, 91, 93, 171, 184, 190, 194, 214, 245, 295, 1161, 1397, 1432, 1539, 1747, 1766, 1827, 1871, 2313, 2624, 2646.  
—, benzyl alcohol impurity, 1862.  
—, cellulose acetate plasticizer, 398.  
—, cellulose alkylated with, 293.  
—, cellulose dispersed in, 280.  
—, cellulose ester coagulated by, 133.  
—, cellulose ether coagulated by, 133, 170, 2086, 2097.  
—, cellulose etherified by, 10.  
—, cellulose ether plastic with, 64.  
—, cellulose ether solvent, 54.  
—, cellulose pretreated with, 655.  
—, etherifying with, 39.  
—, etherifying cellulose with, 1298.  
—, flax alkylated with, 293.  
—, hemp alkylated with, 293.  
—, impurities in, 1513.  
—, jute alkylated with, 293.  
—, linen alkylated with, 293.  
—, mfr., 1292, 1293.  
—, methylbenzylcellulose made with, 58.  
—, plastic containing, 2568.  
—, properties, 1296.  
—, purifying, 1297.  
—, resinous products from, 1572.  
—, uses, 1296.  
Benzyl cinnamate, 1959.  
—, mfr., 656.  
Benzyl citrate, 1946, 1952.  
—, cellulose acetate plastifier, 729.  
Benzylcresyl ether, 1583, 2032.  
—, benzylcellulose plastic containing, 87.  
—, ethylcellulose plastic containing, 87.  
—, insulator containing, 2442.  
Benzylcyclohexanone, 1988.  
Benzylcyclohexyl phthalate, 1978.  
Benzyl dextrin, 1516, 1827.  
—, mfr. of, 69.  
—, solubility, 1516.  
0.5-Benzyl dextrin, 1516.  
*Benzyl dichloride, see Benzal chloride.*  
Benzyl dihydrocarvone, 1890, 1986, 2046.  
—, cellulose acetate plasticizer, 365.  
Benzyl dihydropulegone, 1890.  
—, cellulose acetate plasticizer, 365.  
Benzyl dimethylglycol phosphate, 1897.  
*Benzylene chloride, see Benzylidene.*  
Benzyl esters, mfr. of, 1514.  
Benzylethenyltetrachloramidine, 2019, 2022.  
Benzyl ether, 184, 1539, 1872, 1873, 1957, 1963, 2624.  
—, acetic anhydride solvent, 768.  
—, benzylcellulose insoluble in, 1537.  
—, cellulose acetate plasticizer, 398.  
—, cellulose acetate solvent, 1818, 1819.  
Benzylethylaniline, cellulose ether dyed using, 2269.  
Benzylethylcellulose, 2040.  
—, delustring, 285.  
Benzylethyl ether, 1871.  
—, cellulose acetate plasticizer, 398.  
—, cellulose ether solvent, 51.  
Benzylethyllignin, mfr., 194.  
Benzyleugenol ether, 2046.  
Benzyl flax, mfr. of, 293.  
Benzyl formate, 1911, 1963.  
—, cellulose acetate solvent, 1818, 1819.  
Benzylglucose, 2.  
—, mfr. of, 69.  
Benzylglucoside, 1508, 1517.  
—, mfr. of, 69.  
Benzylglycolmonoethyl phthalate, 1978.

- Benzylglycolmonomethyl phthalate, 1978.  
Benzyl hemp, mfr. of, 293.  
*Benzyl hexahydrobenzoate, see Benzyl naphthenate.*  
Benzylhydroxyethylcellulose, mfr., 2646.  
Benzylidene acetoacetate, 1932, 2018.  
Benzylideneacetoacetic ester, 2018.  
Benzylidene acetone, 1888.  
Benzylidene bromide, cellulose acetate inflammability reduced by, 743.  
Benzylidene chloride, benzyl chloride impurity, 1513.  
—, celluloid solvent, 890.  
—, cellulose acetate solvent, 890, 1785.  
—, cellulose ester non-solvent, 1806.  
—, *see also Benzal chloride.*  
Benzylidene diacetate, 1928.  
Benzylidene diacetoacetate, 1932.  
Benzylidenedihydrocarvone, 1890.  
Benzylideneglycerol, 1857, 1874, 1886, 1894.  
Benzylidenemethylglycerol, 1497.  
Benzylinulin, 1161.  
—, mfr. of, 69.  
Benzylisoeugenol, cellulose ester softener, 970.  
Benzylisoeugenol ether, 2046.  
Benzyl jute, mfr. of, 293.  
Benzyl lactate, 1946, 1952, 1991.  
—, cellulose acetate plastifier, 729.  
—, wetting out agent, 1236.  
Benzyl lactose, mfr. of, 69.  
Benzyllevulinate, 1934, 1993.  
Benzyl-lignin, 1632.  
—, mfr. of, 233, 296, 1628.  
Benzyl linen, mfr. of, 293.  
Benzylmethylamine, celluloid solvent, 890.  
—, cellulose acetate solvent, 890, 1785.  
Benzylmethylaniline, cellulose acetate dyed using, 717.  
Benzylmethylcellulose, mfr. of, 240.  
Benzylmethyl ether, camphor substitute, 2050.  
—, cellulose acetate plasticizer, 398, 452.  
Benzylmethylglucoside, mfr. of, 69.  
Benzylmethylglycol phthalate, 1978.  
Benzyl-naphthalene, lacquer containing, 2428.  
*a*-Benzyl-naphthalene, cellulose nitrate with, 1808.  
*b*-Benzyl-naphthalene, cellulose nitrate with, 1808.  
Benzyl-naphthalenesulfonate, emulsification using, 2451.  
Benzyl-naphthalenesulfonic acid, emulsification using, 2451.  
Benzyl naphthenate, 1966.  
Benzyl-naphthylamine, 2014.  
Benzyl-*b*-naphthyl ether, acetic anhydride solvent, 1048.  
Benzyl nitrate, benzyl chloride in mfr., 1297.  
Benzyl oxanilate, 1979.  
Benzyl-oxybutylcellulose, mfr. of, 239, 283, 289, 1608.  
—, solubility of, 1608.  
Benzyl-oxy-cellulose, mfr. of, 283.  
Benzyl-oxyethylcellulose, 1397.  
—, mfr. of, 239, 289.  
—, solubility of, 1608.  
Benzyl oxynaphthylamine, 1979.  
Benzyl palmitate, properties, 732.  
*Benzylphenylamine, see Benzyl-aniline.*  
Benzylphenyldimethylammonium chloride, 1596.  
Benzyl-*m*-phenylenediamine, cellulose acetate combined with, 533.  
Benzyl phenyl malonate, 1952.  
Benzylphenyl urethane, 1956.  
Benzyl phosphate, cellulose acetate plastifier, 581.  
Benzyl phthalate, 1952, 1977, 1978.  
Benzyl propionate, 1927.  
Benzyl propyl phthalate, 1978.  
Benzyl-*n*-propyl phthalate, 1992.  
Benzylpyridinium chloride, 1635, 1732, 1736.  
—, cellulose purified by, 1410.  
1.2-Benzylpyrone, 2048.  
Benzyl resinate, lacquer of cellulose acetate and, 517.  
Benzyl salicylate, 1963, 1965.  
—, cellulose acetate solvent, 1818, 1819.  
—, plastic made containing, 2565.  
Benzyl sebacate, 1978.  
Benzyl starch, 1482, 1827.  
—, cable, insulating, made with, 86.  
—, celluloids made with, 86.  
—, chloretone with, 1518.  
—, coumarone, polymerized, plasticizer for, 1575.  
—, leather, artificial, made with, 86.  
—, mfr. of, 69, 1486.



- Benzyl starch, naphtha solvent plasticizer for, 86.  
—, plastic made using, 1581, 2581.  
Benzyl stearate, 1940.  
—, mfr. of, 714.  
—, properties, 732.  
Benzyl succinate, 1949, 1952.  
—, cellulose acetate solvent, 505.  
—, mfr. of, 505.  
Benzylsuccinyl succinate, 1952.  
Benzylsucrose, mfr. of, 69.  
Benzylsulfanilic acid, wetting out agent, 1375.  
Benzyl-*o*-sulfanilic acid, cellulose ether dyed with, 113.  
Benzylsulfatoethylaniline, cellulose acetate dyed using, 612.  
Benzylsulfoleate, cellulose ether dispersed by, 171.  
Benzyl-sulforicinoleate, cellulose ether dispersed by, 171.  
Benzyl tartrate, 1946, 1952.  
—, cellulose acetate plasticizer, 729.  
Benzyl-*o*-toluidine, 2014.  
Benzyltolyl phthalate, 1978.  
Benzyl-tolyl-urethane, 1956.  
Benzyl-*o*-tolyl urethane, 1956.  
Benzyl-*p*-tolyl urethane, 1956.  
Benzyl-2,4,6-tribromanilid, benzyl-cellulose treated with, 1563.  
Benzyl trimesate, 1952.  
Benzylurea, 2029.  
—, *see also* *Benzylcarbamide*.  
Benzyl violet, 1747.  
Benzyl violet 10B, 1639, 1641.  
Bergmann-Machemer method, 1115.  
Beriberi, anthracene-sulfonic acid in treatment of, 2450.  
—, naphthol-sulfonic acid in treatment of, 2450.  
—, naphthylamine-sulfonic acid in treatment of, 2450.  
Berlin blue, cellulose ether dye, 244.  
Bernite, 665, 2567.  
*Beryllia*, *see* *Beryllium oxide*.  
*Beta-Compounds*, *see* *B-compounds*.  
Betelphenol, 1863.  
Betol, 1964.  
Bexoid, 2567.  
Bianisidine, amines solvent for, 2009.  
Bibenzyl, 1809.  
—, benzyl chloride in mfr., 1297.  
—, cellulose acetate plastifier, 617.  
—, *see also* *Dibenzyl*.  
Bibenzylanilinedisulfo acid, cellulose acetate dyed using, 675.  
Bibenzyl ether, 1873.  
Bichromate, cellulose oxidized by, 12.  
—, hydrogen bisulfide oxidant, 148.  
Biguanide, 2031.  
—, benzylcellulose combined with, 282.  
—, benzylcellulose stabilizer, 1574.  
—, butylcellulose combined with, 282.  
—, butylcellulose stabilizer, 1574.  
—, coating containing, 282.  
—, film containing, 282.  
—, lacquer containing, 282, 2416.  
—, stabilizer, 1574.  
Biguanide nitrate, 2031.  
Biguanidine, butylcellulose and, 1340.  
*Bihydrate of methylene*, *see* *Methyl alcohol*.  
Bile, guanin purified by, 2617.  
—, viscosity cellulose acetate reduced by, 2397.  
—, viscosity of cellulose ester reduced by, 822.  
Biliary salts, guanin purified by, 2617.  
*Bilineurine*, *see* *Choline*.  
Binder, cellulose ester, mfr., 291.  
—, cellulose ether, mfr., 291.  
—, hydrocellulose acetate for, 432.  
Binding agent, starch acetate for, 1493.  
Bingham plastometer, 713.  
*Binetro compounds*, *see* *Dinitro compounds*.  
Biophane, waterproofing, 139.  
Biosan, 1510.  
—, freezing point of, 875.  
—, methylation of, 188, 1322.  
Biosan acetate, 964, 1118, 1130 1146.  
—, oxidation products of, 997.  
*Biose*, *see* *Cellobiose*.  
Biase-anhydride, 71, 1106, 1368.  
Bi-oxychloride, iridescent film produced by, 426.  
Biphenyl, 1093.  
*Biplane wings*, *see* *Wings, biplane*.  
Bipyridine, amines solvent for, 2010.  
Birch bark, leather substitute from, 462.  
Birch tar oil, 1962, 2044.  
1,4-Bisacetamidoanthraquinone, cellulose ether dyed using, 2253.

- 1.5-Bisacetamidoanthraquinone,  
cellulose ether dyed using, 2253.  
s-Bis(hydroxymethyl) urea, 2030.  
Bis(hydroxyphenyl)cyclohexane,  
1980.  
Bismark brown, 531, 2640.  
—, cellulose ether dyed using, 2222,  
2259.  
—, stencil sheet made using, 2491.  
—, *see also* Triamino-azo-benzene.  
Bismark Brown FR, cellulose ester  
dyed with, 195.  
—, cellulose ether dyed with, 195.  
Bismark Brown lakes, stencil col-  
ored by, 664.  
Bismuth, loading benzylcellulose  
with salts of, 1584.  
Bismuth acetate, catalyst in acetic  
anhydride mfr., 843.  
Bismuth chloride, benzylcellulose  
waterproofed by, 2158.  
—, catalyst in acetic anhydride  
mfr., 843.  
—, catalyst in ethyl chloride mfr.,  
1267.  
—, cellulose solvent, 1137.  
—, ethylcellulose waterproofed by,  
2158.  
—, methylcellulose waterproofed  
by, 2158.  
—, weighting cellulose ether by,  
229.  
*Bismuth dithiosalicylate, see*  
*Thioform.*  
Bismuth hydroxide, 1075.  
—, catalyst in ethyl chloride mfr.,  
1267.  
Bismuth molybdate, cellulose ether  
containing, 144.  
Bismuth molybdenum molybdate,  
catalyst in acetaldehyde mfr.,  
1017.  
—, catalyst in acetic acid mfr.,  
1017.  
Bismuth nitrate, catalyst in acetal-  
dehyde mfr., 1017.  
—, catalyst in acetic acid mfr.,  
1017.  
—, catalyst in ethyl chloride mfr.,  
1267.  
—, cellulose ester and for artificial  
leather, 223.  
—, cellulose ether and for artificial  
leather, 223.  
—, leather, artificial, made with  
cellulose acetate and, 623.  
Bismuth oleate, delustring with,  
2183.  
Bismuth oxide, 1075.  
—, catalyst in acetic anhydride  
mfr., 843.  
—, catalyst in ethyl chloride mfr.,  
1267.  
Bismuth oxychloride, 1075, 2518.  
—, card containing, 292.  
—, card, playing, mfr. using, 203,  
292, 2609.  
—, catalyst in ethyl chloride mfr.,  
1267.  
—, lacquer, iridescent, containing,  
2392.  
—, metallic effect produced by, 141.  
—, pearl essence made using, 2620.  
—, textiles, metallization of, with,  
2361.  
Bismuth palmitate, delustring with,  
2183.  
Bismuth phosphate, benzylcellulose  
loaded with, 1590.  
—, ethylcellulose loaded with, 1590.  
Bismuth salt, benzylcellulose loaded  
with, 137.  
—, ethylcellulose loaded with, 137.  
—, leather, substitute of cellulose  
acetate and, 760.  
—, methylcellulose loaded with, 137.  
Bismuth silicate, benzylcellulose  
loaded with, 1590.  
—, ethylcellulose loaded with, 1590.  
Bismuth stannate, cellulose ether  
containing, 144.  
Bismuth stearate, delustring with,  
2183.  
Bismuth sub-nitrate, card contain-  
ing, 292.  
—, card, playing, mfr. using, 292,  
2609.  
Bismuth sulfate, benzylcellulose  
waterproofed by, 2158.  
—, ethylcellulose waterproofed by,  
2158.  
—, methylcellulose waterproofed  
by, 2158.  
Bismuth tannate, benzylcellulose  
loaded with, 1590.  
—, ethylcellulose loaded with, 1590.  
Bismuth thiocyanate, benzylcellu-  
lose waterproofed by, 2158.  
—, ethylcellulose waterproofed by,  
2158.  
—, methylcellulose waterproofed  
by, 2158.  
Bismuth trichloride, 1052.

- Bismuth tungstate, cellulose ether containing, 145.  
 Bitumen, 1099, 1571.  
 —, benzylcellulose plastic containing, 96.  
 —, block, molded, made using, 162.  
 —, butylcellulose plastic containing, 96.  
 —, cyclohexanone solvent of, 1985.  
 —, ethylcellulose plastic containing, 96.  
 —, insulator of cellulose acetate and, 576.  
 —, methylcellulose plastic containing, 96.  
 —, propylcellulose plastic containing, 96.  
 —, record, phonograph, made using, 162.  
 Black, blue, cellulose acetate dyed, 917.  
 —, bluish, cellulose ether dyed, 2256.  
 —, brownish, cellulose acetate dyed, 857.  
 —, cellulose acetate dyeing, uniform, 749.  
 —, cellulose acetate dyed, 503, 511, 540, 606, 622, 714, 716, 744, 787, 798, 828, 857, 881, 917, 982, 983, 1087.  
 —, cellulose ester dyed, 129, 138, 210, 217, 228, 240, 267.  
 —, cellulose ether dyed, 129, 138, 156, 168, 179, 210, 217, 228, 240, 267, 2248, 2254, 2269, 2270, 2271, 2274, 2278, 2292, 2298, 2300, 2301, 2302, 2311, 2348, 2638.  
 —, cotton dyed, 267.  
 —, discharging, 265.  
 —, green, cellulose acetate dyed, 1087.  
 —, greenish, cellulose acetate dyed, 693, 845, 917.  
 —, vegetable, airplane lacquer containing, 439.  
 Black CG, cellulose acetate dyed using, 690.  
 —, viscose dyed using, 690.  
 —, wool dyed using, 690.  
 Black liquor, cellulose ether dyed using, 2244.  
 Black pepper oil, 2446.  
 Blanc fixe, lacquer, cellulose ether, containing, 2404.  
 —, opacity of, 2177.  
 Blank, box toe, benzylcellulose in mfr., 2473.  
 Blankets, printers, mfr. of, 2158.  
*Blasting cartridge, see Cartridge.*  
 Bleaching, cellulose acetate, 652, 678, 684, 689.  
 —, chlorine for, 2121.  
 —, hypochlorite for, 2121.  
 —, oxalic acid for, 2121.  
 Bleaching cotton, 652.  
 —, *see also Cotton, bleaching.*  
 Bleaching powder, cellulose acetate discharge effects produced by, 745.  
 —, *see also Lime, chlorinated.*  
 Blenal, 1907.  
*Blending, see Cellulose nitrate, mfr.*  
 Block, molded, asphalt for mfr. of, 162.  
 —, —, bitumen for mfr. of, 162.  
 —, —, cellulose ester for mfr. of, 162.  
 —, —, cellulose ether for mfr. of, 162.  
 —, —, ethyl lactate for mfr. of, 162.  
 —, —, sulfanilid for mfr. of, 162.  
 —, —, triacetin for mfr. of, 162.  
 —, —, triphenyl phosphate for mfr. of, 162.  
 —, printing, 479.  
 —, —, mfr. of, 2572.  
 —, stamping, cellulose acetate in mfr., 479.  
*Block printing, see Printing.*  
 Blood, cellulose acetate plastic containing, 353.  
 —, cellulose nitrate plastic containing, 353.  
 —, powdered, 1165.  
 Blue, 675.  
 —, bright, cellulose acetate dyed using, 540.  
 —, cellulose acetate dyed, 493, 528, 531, 592, 601, 618, 643, 676, 716, 717, 798, 844, 846, 859, 879, 881, 1010, 1088, 2248, 2249, 2250.  
 —, cellulose ester dyed, 165, 198, 207, 239, 242, 284, 285.  
 —, cellulose ether dyed, 165, 198, 207, 239, 242, 284, 285, 298, 2222, 2229, 2246, 2251, 2253, 2254, 2256, 2260, 2261, 2263, 2264, 2266, 2267, 2268, 2270, 2271, 2273, 2274, 2275, 2277, 2279, 2282, 2283, 2285, 2293, 2297, 2312, 2633, 2634, 2638.  
 —, dull, cellulose ether dyed, 2243.  
 —, film dyed, 2519.

- Blue, fluorescent, cellulose ether dyed, 2252.
- , green, cellulose acetate dyed, 674, 937, 1010, 1011.
- , —, cellulose ester dyed, 198.
- , —, cellulose ether dyed, 198, 2248, 2250, 2255, 2257.
- , greenish, cellulose acetate dyed, 612, 712, 777, 971.
- , —, cellulose ester dyed, 290, 299.
- , —, cellulose ether dyed, 179, 290, 299, 2260, 2272, 2274, 2275, 2288, 2293, 2296, 2297, 2298.
- , marine, cellulose acetate dyed, 983.
- , —, cellulose ether dyed, 2248.
- , navy, cellulose acetate dyed, 540, 612, 690.
- , —, cellulose ether dyed, 129, 2268, 2274, 2278, 2347, 2348.
- , —, discharging, 265.
- , Prussian, airplane lacquer containing, 439.
- , red, cellulose acetate dyed, 674, 1011.
- , —, cellulose ether dyed, 2248.
- , reddish, cellulose acetate dyed, 671.
- , —, cellulose ester dyed, 285.
- , —, cellulose ether dyed, 179, 285.
- , violet, cellulose acetate dyed, 613, 693.
- Blue-green, cellulose acetate dyed, 1085.
- Blue salt B, printing with, 2326.
- Bluish-pink*, see *Pink*, *bluish*.
- Bluish violet, cellulose acetate dyed, 531.
- Board, acaroid in mfr., 725.
- , cellulose in mfr., 725.
- , cellulose acetate in mfr., 725.
- , composite, cellulose acetate in mfr. of, 570.
- , composition, mfr. of, cellulose ether in, 2405.
- , gilsonite in mfr., 725.
- , insulation, electric, mfr., 2445.
- , laminated, mfr., 2597.
- , mfr. of, soap in, 725.
- Bobbin, cellulose acetate coated, mfr., 786.
- , cellulose ether dyed using, 2308.
- Body support, cellulose acetate in mfr. of, 423.
- Boiling, resistance to, cellulose acetate filaments, 786.
- Bombax cotton*, see *Cotton*, *bombax*.
- Bonds, cellulose acetate coating, 710.
- Bone black, lacquer containing, 2413.
- , non-chalking composition containing, 1580.
- Bone char, cellulose ether decolorized by, 67.
- Bone meal, plastic made using, 2559.
- Bone oil, alkyl cellulose with for treating leather, 193.
- , cellulose acetate lubricant, 817.
- , cellulose acetate sized using, 696.
- , cellulose ether softener, 2122.
- , dimethylcellulose with for treating leather, 193.
- , emulsion containing, 2466, 2467.
- , filament, hollow, made using, 640, 805.
- , —, spun, using, 2368.
- , film containing, 886, 2506.
- , tanning with, 2467.
- Bookbinding, 1,2-dihydroxypropylcellulose used in, 169.
- , hydroxyalkylcellulose used in, 169.
- , hydroxyethylcellulose used in, 169.
- , oxyalkylcellulose used in, 169.
- Boot, greasproofing, cellulose acetate for, 687, 688.
- Boot uppers, celluloid in mfr., 2472.
- Boracic acid*, see *Boric acid*.
- Borated benzol, airplane fabric coated using, 485.
- Borated cellulose, mfr., 490.
- Borates, fabric, fireproof, made with, 432.
- , —, washable, made with, 432.
- , fire-retardant, 1909.
- , paper, fireproof, made with, 432.
- , —, washable, made with, 432.
- Borax, 1909, 2055, 2057, 2058.
- , benzylcellulose treated with, 1561.
- , cellulose acetate filament made using, 869.
- , cellulose acetate saponified by, 501.
- , cellulose inflammability reduced by, 158.
- , delustring using, 2178.
- , dyeing in presence of, 2270.

- Borax, fireproofing with, 566.  
 —, glycols made using, 489.  
 —, sizing with, 2141.  
 Bordeaux (dye), 4.  
 Bordeaux, blue, cellulose ether dyed, 2261.  
 —, cellulose acetate dyed, 531.  
 —, cellulose ester dyed, 196.  
 —, cellulose ether dyed, 196, 2257, 2279.  
 Boric acid, 198, 1388, 1655, 1856, 1909, 2026, 2057, 2058.  
 —, acetic anhydride mfr. using, 626.  
 —, benzylcellulose treated with, 1561.  
 —, catalyst in acetaldehyde mfr., 671.  
 —, catalyst in acetic acid mfr., 605.  
 —, catalyst in methyl acetate mfr., 605.  
 —, cellulose, borated, made using, 490.  
 —, cellulose acetate combined with, 344.  
 —, cellulose acetate delustred by, 722.  
 —, cellulose filament made using, 869.  
 —, cellulose acetate inflammability reduced by, 383, 550.  
 —, cellulose acetate lacquer containing, 449.  
 —, cellulose ether, jelling of, prevented by, 1349.  
 —, —, livering of, prevented by, 1349.  
 —, —, precipitating of, prevented by, 1349.  
 —, cellulose ether delustred by, 266.  
 —, cellulose ether dyed using, 2250.  
 —, cellulose pretreated with, 1015.  
 —, delustering using, 2178, 2197.  
 —, ethylcellulose, jelling of, prevented by, 1349.  
 —, —, livering of, prevented by, 1349.  
 —, —, precipitating of, prevented by, 1349.  
 —, fabric coated using, 2485.  
 —, formic acid concentrated using, 824.  
 —, livering in cellulose ether prevented by, 162.  
 —, methyl acetate made using, 1045.  
 Boric acid, methylcellulose, jelling of, prevented by, 1349.  
 —, —, livering of, prevented by, 1349.  
 —, —, precipitating of, prevented by, 1349.  
 —, solvent, 1796.  
 Boric esters, 1909.  
 Borneo camphor, *see* Borneol.  
 Borneo earth oil, 269.  
 Borneol, 1983, 2022, 2023, 2046, 2047.  
 —, amines solvent for, 2009.  
 —, cellulose acetate plastifier, 352, 559.  
 —, cellulose acetate solvent, 1818, 1819.  
 —, cellulose butyrate plastifier, 352.  
 —, cellulose ether plasticizer, 243.  
 —, cellulose formate plastifier, 352.  
 —, cellulose nitrate plasticizer, 243.  
 —, crystal effects produced by, 2430.  
 —, ethylcellulose plasticizer, 151, 243.  
 —, methylcellulose plasticizer, 243.  
 —, paper coated with cellulose nitrate and, 645.  
 —, plastic made using, 2577, 2578.  
 Borneol acetate, 2046, 2047.  
 —, cellulose ether solvent, 163.  
 —, paint containing, 163.  
 —, varnish containing, 163.  
 Borneol butyrate, 2046.  
 —, cellulose ether solvent, 163.  
 —, paint containing, 163.  
 —, varnish containing, 163.  
 Borneol formate, 2046, 2047.  
 —, cellulose ether solvent, 163.  
 —, paint containing, 163.  
 —, varnish containing, 163.  
 Borneol oxalate, 1982, 2046.  
 Borneol phthalate, 1982, 2046.  
 —, cellulose ether solvent, 163.  
 —, paint containing, 163.  
 —, varnish containing, 163.  
 Borneol salicylate, 1982, 2046.  
 —, cellulose ether solvent, 163.  
 —, paint containing, 163.  
 —, varnish containing, 163.  
 Borneol stearate, 2047.  
*iso-Borneol*, *see* *Isoborneol*.  
 Bornyl acetate, 1929, 1957, 1963.  
 —, cellulose acetate solvent, 1818, 1819.  
 —, *see also* *Isobornyl acetate*.  
 Bornyl alcohol, *see* *Borneol*.

- Bornylan, 1463.  
 —, ethylcellulose purified by, 269.  
 Bornyl phenate, 2047.  
 Bornyl phosphate, catalyst in acetic anhydride mfr., 977.  
 Bornyl phthalate, plasticizer, lacquer, 2400.  
*Bornylval*, see *Ethyl isovalerianate*.  
 Boroacetic anhydride, 122.  
 Borofluoroacetic acid, polymerizing with, 195.  
 Boroformate, formic acid fixative, 1028.  
 Boron phosphate, 1048.  
 —, acetic anhydride mfr. using, 1049.  
 —, catalyst, 876.  
 Borosalicylate, formic acid fixative, 1028.  
*Borowolframie acid*, see *Borotungstic acid*.  
 Bottle, capping, lacquer for, 1024.  
 —, capsule for, mfr., 2398.  
 —, cellulose acetate for ornamenting, 805.  
 —, covering, cellulose acetate for, 475.  
 —, sealing, cellulose acetate for, 382, 555.  
 —, —, see also *Bottle, capping*.  
 —, stopper, capping, cellulose acetate for, 869.  
 —, —, capsule for, cellulose acetate, 1024.  
 —, —, cellulose acetate for capping, 869.  
 Bottle cap, cellulose acetate for, 382, 525.  
 Bottle closure, ethyl chloride for, 1273.  
*B. O. V.*, see *Sulfuric acid, brown*.  
 Bowling ball, production, peat for, 1165.  
 Box, cellulose acetate in mfr. of, 525, 819.  
 —, cigarette, mfr. cellulose acetate for, 415.  
 —, mfr., cellulose acetate for, 415.  
*B powder*, see *Poudre B*.  
 Braces, trouser, fabric, elastic, for, 2382.  
 Bragg atom model, 1106.  
 Brass, cellulose ether impregnated with, 2480.  
 Brassieres, fabric, elastic for, 2382.  
 Bresiline, acetic acid action on, 311.  
 —, ester of, 311.  
 Briar root, gun stock made using, 588.  
 —, tobacco pipe made using, 588.  
 Brickdust, powder, black, containing, 2470.  
 Brickwork, lacquer for, 2420.  
 Brilliant alizarin blue G, cellulose acetate dyed by, 512.  
 Brilliant carmine, 150.  
 Brilliant green, 2082.  
 —, cellulose ether dyed using, 2296.  
 Brilliantine, waterproofing, 139.  
 Brilliant orange G, cellulose acetate dyed by, 512.  
 —, cellulose ether dyed using, 2259.  
 Briquetting, peat for, 1165.  
 Bristle, artificial, mfr. of, 1075, 2076, 2108, 2117, 2373, 2376, 2378.  
 —, —, —, cellulose acetate for, 389, 747, 749, 862, 1030.  
 —, —, —, cellulose ester in, 270.  
 —, —, —, cellulose ether in, 270.  
 —, cellulose ether delustring, 2194.  
 British gum, 1722, 2055.  
 —, thickener, 1415, 2165.  
 Broad silk, cellulose acetate uses in, 722.  
 Brocade, artificial, mfr. of, 2379.  
 —, woven, artificial, mfr. of, 2379.  
*o*-Bromacetanilid, amines solvent for, 2009.  
 Bromacetic acid, butyric anhydride made using, 771.  
 —, propionic anhydride made using, 771.  
 Bromacetic anhydride, 187.  
 Bromacetone, 520.  
 Bromacetophenone, 1890.  
 Brom-*o*-acetphenetidin, 2015.  
 Brom-*p*-acetphenetidin, 2015.  
 Brom-*o*-acetoluid, 2015.  
 Brom-*p*-acetoluid, 2015.  
 Bromacetyl ethyl glucose, 71, 1111.  
 Bromacetyl glucose, 1368.  
 Bromaniline, stabilizer, 1564.  
*p*-Bromaniline, amines solvent for, 2009.  
 Brom-anthracene, benzylcellulose treated with, 1563.  
*p*-Brombenzaldehyde, 1867, 1958.  
 —, cellulose ester solvent, 267.  
 —, cellulose ether solvent, 267.  
 Brombenzanilid, 2015.  
 Brombenzene, 1825, 1958.  
 —, cellulose ether inflammability reduced by, 182.  
 —, fire-retardant, 1374.

- Brombenzene, flash point, 2060.  
Brombenzil, 1890.  
Brombenzoic acid, mfr., 1740.  
Brombenzophenone, 1890.  
Brombenzyl bromide, etherifying cellulose with, 1298.  
Brombenzyl chloride, 287, 1592.  
*p*-Brombenzyl chloride, 1622.  
Brombutyric acid, mfr., 1740.  
*a*-Brombutyric acid, 1643.  
*a*-Bromisobutyric acid, 1722.  
—, cellulose derivatives of, 88.  
Bromcamphor, 1826.  
—, amines solvent for, 2009.  
—, cellulose ether inflammability reduced by, 182.  
—, film made using, 2510.  
—, fire-retardant, 1374.  
Bromcaproic acid, mfr., 1740.  
Bromcaprylic acid, mfr., 1740.  
Brom-catechol, cellulose ether inflammability reduced by, 182.  
1-Brom-6.6-cellobiosidoglucose decaacetate, 1024.  
—, properties, 1024.  
Bromo-*o*-chlorbenzoic acid, mfr., 1740.  
1-Brom-2-chlorethane, cellulose acetate solvent, 1816.  
—, cellulose ester solvent, 1816.  
Bromcinnamic acid, mfr., 1740.  
Bromcresol, cellulose ether inflammability reduced by, 182.  
Bromcresol green, amines solvent for, 2009.  
Bromcresyl phosphate, 1896, 1960.  
Bromcrotonic acid, mfr., 1740.  
Bromcumene, 1958.  
—, cellulose ether inflammability reduced by, 182.  
—, fire-retardant, 1374.  
Bromcyclohexanecarboxylic acid, mfr., 1740.  
Bromcymene, 1958.  
—, cellulose ether inflammability reduced by, 182.  
—, fire-retardant, 1374.  
Bromdibenzylidene acetone, 1890.  
Bromethylbenzene, cellulose ether inflammability reduced by, 182.  
—, fire-retardant, 1374.  
Bromethylcellulose, 1397.  
Bromethylene, 1824.  
*Bromethylformin*, see *Bromalin*.  
1-*b*-Brom-ethylpiperidine, alkali-cellulose treated with, 299.  
*Brometone*, see *Tribom tertiary butyl alcohol*.  
Bromformanilid, 2015.  
Bromheptylic acid, mfr., 1740.  
*Bromhydrid ether*, see *Ethyl bromide*.  
Bromhydroquinone, film made using, 2510.  
—, cellulose acetate inflammability reduced by, 618.  
—, cellulose ether inflammability reduced by, 182.  
Bromhydrocinnamic acid, mfr., 1740.  
Bromide, 1337.  
—, hydrolysis acetic anhydride diminished by, 986.  
Bromindigo, 2242.  
—, cellulose acetate dyed with, 511, 622.  
Bromindigo FB, cellulose acetate dyed using, 686.  
Bromine, catalyst in acetating, 401.  
—, catalyst in cellulose acetating, 411, 445, 490, 589.  
—, cellulose action by, 1138.  
—, cellulose oxidized by, 12.  
—, cellulose pretreated with, 901.  
—, cellulose sulfacetates pretreated with, 846.  
—, cellulose treated with, 1139.  
—, ethylcellulose made using, 1799.  
—, methylcellulose made using, 1799.  
Bromine chloride, catalyst in acetating, 401.  
Bromlauric acid, mfr., 1740.  
Brommalonic acid, 56.  
Brom-mesitylene, cellulose ether inflammability reduced by, 182.  
—, fire-retardant, 1374.  
*Brom-methane*, see *Methyl bromide*.  
Brom-*o*-methoxybenzoic acid, mfr., 1740.  
Brom-methyl acetate, alcohol made using, 891.  
Brommethylfurfural, 1114, 1134, 1135, 1138.  
Brommethylignin, mfr. of, 230.  
Brom-methylstyryl ketone, 1890.  
Brom-myristic acid, 1892.  
—, mfr. of, 1740.  
Brom-naphthalene, benzylcellulose treated with, 1563.  
*a*-Brom-naphthalene, cellulose ester coagulated by, 133.

- $\alpha$ -Brom-naphthalene, cellulose ether coagulated by, 133, 170, 2086, 2097.  
—, cellulose ether precipitant, 170, 2086.  
—, ethylcellulose colloided by, 222.  
1-Brom-naphthalene, amines solvent for, 2009.  
Brom-naphthalin, 1983.  
*p*-Brom-nitrobenzene, amines solvent for, 2009.  
4-Brom-2-nitro-diphenylamine, cellulose acetate dyed using, 750.  
—, cellulose butyrate dyed using, 750.  
—, cellulose formate dyed using, 750.  
—, cellulose propionate dyed using, 750.  
4-Brom-2'-nitro-diphenylamine, cellulose acetate dyed using, 750.  
—, cellulose butyrate dyed using, 750.  
—, cellulose ether dyed using, 2284, 2285.  
—, cellulose formate dyed using, 750.  
—, cellulose propionate dyed using, 750.  
4-Brom-2-nitro-4'-methoxy-diphenylamine, cellulose acetate dyed using, 750.  
—, cellulose butyrate dyed using, 750.  
—, cellulose ether dyed using, 2284.  
—, cellulose formate dyed using, 750.  
—, cellulose propionate dyed using, 750.  
Bromocoll, 2446.  
*Bromo (di) propane, see Propylene bromide.*  
Bromoform, 892, 1139, 1811.  
—, cellulose acetate solvent, 813.  
—, cresol with as plastic, 561.  
—, formaldehyde with as plastic, 561.  
—, methyl starch solvent, 1473, 1474.  
—, starch ether non-solvent, 1472.  
—, tar-oil with as plastic, 561.  
—, triphenylmethylcellulose solvent, 1634.  
*Bromol, see Tribromphenol.*  
Bromoxyacetophenone, 1890.  
Brom-*p*-oxybenzophenone, 1890.  
3-Brom-4-oxy-1-*ter*butylbenzene, cellulose acetate plastifier, 798.  
—, plastic made containing, 2564.  
Bromoxyphenylbenzyl ketone, 1890.  
Brompalmitic acid, mfr., 1740, 1892.  
Brompelargonic acid, mfr., 1740.  
 *$\alpha$ -Brompentane, see Amyl bromide (n).*  
Brom-phenol, cellulose ether inflammability reduced by, 182.  
*p*-Bromphenol, cellulose acetate inflammability reduced by, 618.  
—, film made using, 2510.  
Bromphenylacetate, inflammability reduced by, 1055.  
Bromphenylacetic acid, mfr., 1740.  
Bromphenylbenzyl ketone, 1890.  
Bromphenyl phosphate, 1896.  
Bromphosphoacetic acid, butyric anhydride made using, 771.  
—, propionic anhydride made using, 771.  
Brompropionic acid, butyric anhydride made using, 771.  
—, propionic anhydride made using, 771.  
 *$\alpha$ -Brompropionic acid, 1643, 1722, 1946.*  
—, cellulose derivatives of, 88.  
Brompropionylethyl glucose, 72, 1111.  
*3-Brompropylen, see Allyl bromide.*  
Brom-pyrogallol, cellulose ether inflammability reduced by, 182.  
Brom-resorcinol, cellulose ether inflammability reduced by, 182.  
Bromstearic acid, 1892.  
 *$\alpha$ -Bromstearic acid, 1711, 1740.*  
—, cellulose aceto-esters made using, 806.  
Bromsuccinic acid, 1643, 1722.  
—, cellulose derivatives of, 88.  
Bromsulfacetic acid, propionic acid made using, 771.  
Brom-thymol, cellulose ether inflammability reduced by, 182.  
Bromtoluene, 1827, 1958.  
—, inflammability reduced by, 1055.  
—, cellulose ether inflammability reduced by, 182.  
—, fire-retardant, 1374.  
 *$\alpha$ -Bromtoluene, 1827.*  
 *$o$ -Bromtoluene, amines solvent for, 2009.*  
—, film made using, 2510.



- p*-Bromtoluene, amines solvent for, 2009.  
 —, film made using, 2510.  
 Bromtoluidine, cellulose acetate inflammability reduced by, 618.  
 —, stabilizer, 1564.  
*α*-1-Brom-2.3.4-triacetyl-*d*-glucose, 1024.  
 —, properties, 1024.  
 1-Bromtriacetyl-*d*-ribose, methylated, 1499.  
 Bromtricresyl phosphate, plastic containing, 2570.  
 Bromtrioxyacetophenone, 1890.  
 Bromtrioxybenzophenone, 1890.  
 Bromvaleric acid, mfr., 1740.  
 Bromxylene, 1958.  
 —, cellulose ether inflammability reduced by, 182.  
 —, fire-retardant, 1374.  
 Bromxylenyl phosphate, 1896.  
 Bronze, benzylcellulose colored using, 2477.  
 —, cellulose ether dyed, 2256.  
 —, cellulose ether impregnated with, 2480.  
 —, cigarette tip wrapped using, 296.  
 —, ethylcellulose colored using, 2477.  
 Bronze powder, cigarette tip coated using, 788, 2432.  
 —, filament treated with, 2363.  
 Bronzing liquid, cellulose acetate, 2400.  
 —, —, mfr. of, 370, 437.  
 —, starch acetate for, 1493.  
 Brookite, 2174.  
*Brovalol*, see *Bornyl bromvalerate*.  
 Brown, 675.  
 —, cellulose acetate dyed, 609, 610, 612, 632, 647, 693, 751, 1009, 1087, 2232, 2248.  
 —, cellulose ester dyed, 120, 121, 180, 241.  
 —, cellulose ether dyed, 112, 120, 121, 122, 159, 168, 180, 241, 1744, 2252, 2256, 2257, 2258, 2259, 2261, 2262, 2272, 2280, 2286, 2348, 2643.  
 —, discharging, 265.  
 —, golden, cellulose ester dyed, 218.  
 —, —, cellulose ether dyed, 218.  
 —, orange, cellulose acetate dyed, 610, 883.  
 —, —, cellulose ester dyed, 217.  
 —, —, cellulose ether dyed, 217, 2253.  
 Brown, purple, cellulose acetate dyed using, 540.  
 —, purplish, cellulose acetate dyed, 751.  
 —, —, cellulose ether dyed, 180, 2286.  
 —, red, cellulose acetate dyed, 883.  
 —, —, cellulose ester dyed, 241.  
 —, —, cellulose ether dyed, 241.  
 —, reddish, cellulose acetate dyed, 540, 606, 857.  
 —, —, cellulose ester dyed, 212.  
 —, —, cellulose ether dyed, 212, 2251, 2254, 2264, 2272.  
 —, violet, cellulose ether dyed, 2289.  
 —, yellow, cellulose acetate dyed, 778, 1085.  
 —, —, cellulose ether dyed, 2264, 2294.  
 —, —, lacquer, cellulose ether, mfr., 2425.  
 —, yellowish, cellulose ester dyed, 120.  
 —, —, cellulose ether dyed, 120.  
*Brown oil vitriol*, see *Sulfuric acid*, brown.  
 Brown-red, cellulose ester dyed, 157.  
 —, cellulose ether dyed, 157.  
 Brucine, 1647.  
 Brush, conducting, cellulose ether for mfr. of, 254.  
 —, —, graphite for mfr. of, 254.  
 —, dynamo, cellulose ether for mfr. of, 254.  
 —, —, graphite for mfr. of, 254.  
 —, electric, cellulose ether for mfr. of, 254.  
 —, —, graphite for mfr. of, 254.  
*Buff split*, see *Skins*.  
 Building material, cellulose acetate in mfr. of, 485.  
 —, cork in mfr. of, 485.  
 —, magnesium oxide in mfr. of, 485.  
 Burning test, cellulose acetate, 651.  
 Burnt coffee, cellulose acetate dyed, 1034.  
 Bushing, mfr. of, cellulose acetate in, 341.  
 —, —, cellulose nitrate in, 341.  
*Butactol*, see *Butyl lactate*.  
 Butadiene, 1980, 2333.  
 —, sheet, transparent, reinforced, made using, 2554.  
 Butaldehyde, 1867.  
 —, mfr., 480.

*Butanediol, see Butylene glycol.*

*Butanol, see Butyl alcohol.*

*3-Butanolal, see Aldol.*

*Butol, see Butyl butyrate.*

*Butoxyl, see 1,3-Butylene glycol-monomethyl acetate.*

Butter fat, cellulose acetate lubricant, 817.

—, cellulose acetate sized using, 696.

—, cellulose acetate softened using, 843.

—, cellulose ether softener, 2122.

—, softener, 2216.

Button, mfr., 2561.

—, —, cellulose acetate in, 693.

—, peat for, 1165.

—, plastic, mfr., 2574.

Button holes, mfr. of, 2360.

*Butyl, see Dibutyl, Monobutyl, Tributyl.*

Butyl abietate, 1954, 2053.

*iso*Butyl abietate, mfr., 884.

*n*-Butyl abietate, mfr., 884.

Butylacetanilid, 2023, 2026.

Butyl acetate, 70, 1340, 1581, 1652, 1666, 1667, 1846, 1849, 1852, 1917, 1943, 1944, 1945, 1969, 1971, 1972, 1987, 1990, 2007, 2027.

—, acetic acid concentrated using, 719.

—, acetic acid extracted by, 829, 1045.

—, acetic acid recovered using, 730.

—, benzylcellulose solvent, 1555, 1588.

—, butyric acid concentrated using, 715.

—, carbon tetrachloride and cellulose ether solvent, 99.

—, cellulose acetate precipitated by, 1043.

—, cellulose acetate solvent, 699, 1819.

—, cellulose ether solvent, 1841, 2471.

—, dilution ratio, 1786, 1787.

—, engine fuel containing, 1910.

—, ethyl alcohol and cellulose ether solvent, 97.

—, ethylbutylcellulose and, for lacquer mfr., 2426.

—, ethylcellulose combined with, 2410.

—, ethyl cellulose solvent, 19, 95, 1436.

—, film made using, 2503, 2514.

—, ink, marking, containing, 2330.

Butyl acetate, lacquer containing, 2413, 2428.

—, leather dressing made using, 868.

—, mfr., 527, 593, 723, 1917.

—, methyl alcohol and, cellulose ether solvent, 97.

—, methylbutylcellulose and, for lacquer mfr., 2426.

—, non-chalking composition containing, 1580.

—, plastic made using, 2579.

—, propyl alcohol and, cellulose ether solvent, 97.

—, rubber combined with, 2410.

—, starch ether solvent, 1483.

—, tricresyl phosphate and, as solvent, 1905.

—, viscosity cellulose esters in, 926.

—, waterproofing using, 2637.

*iso*Butyl acetate, 1870, 1918.

—, acetic acid recovered using, 730.

—, ethylcellulose solvent, 300.

—, flash point, 2060.

—, mfr., 593.

*n*-Butyl acetate, 1918, 2388.

—, benzaldehyde solvent with, 50.

—, butyl tartrate solvent with, 50.

—, cellulose acetate solvent, 813.

—, cellulose ether solvent, 50.

—, cyclohexanol solvent with, 50.

—, cyclohexanone solvent with, 50.

—, dibenzylamine solvent with, 51.

—, dimethylaniline solvent with, 51.

—, diphenyl methane solvent with, 51.

—, ethylbenzene solvent with, 51.

—, ethylene bromide solvent with, 50.

—, ethylene chloride solvent with, 51.

—, ethylene trichloride solvent with, 50.

—, ethyl iodide solvent with, 50.

—, flash point, 2060.

—, ethyl acetate solvent with, 50.

—, methyl acetone solvent with, 50.

—, methylene chloride solvent with, 50.

—, viscosity of, 1367.

*sec*-Butyl acetate, 1846, 1919, 2026.

—, benzaldehyde solvent with, 50.

—, butyl tartrate solvent with, 50.

—, cellulose ether solvent, 50.

—, cyclohexanol solvent with, 50.

—, cyclohexanone solvent with, 50.

—, dibenzylamine solvent with, 51.

- sec*-Butyl acetate, dimethylaniline solvent with, 51.  
—, diphenyl methane solvent with, 51.  
—, ethylbenzene solvent with, 51.  
—, ethylene bromide solvent with, 50.  
—, ethylene chloride solvent with, 51.  
—, ethylene trichloride solvent with, 50.  
—, ethyl iodide solvent with, 50.  
—, methyl acetate solvent with, 50.  
—, methyl acetone solvent with, 50.  
—, methylene chloride solvent with, 50.  
*Butylacetic acid*, see *Iso-oxybutyric acid*.  
Butyl acetoacetate, camphor substitute, 2050.  
—, cellulose acetate with, as plastic, 48.  
—, cellulose nitrate with, as plastic, 48.  
—, ethylcellulose with, as plastic, 48.  
—, methylcellulose with, as plastic, 48.  
*iso*Butyl acetoacetate, 1931, 1932.  
Butyl acetyl-glycerate, 1953.  
Butyl acetyl-lactate, 1953.  
Butyl acetyl naphthoate, cellulose acetate plastifier, 550.  
Butyl acetyl-oxyoleate, 1939.  
Butyl acetyl-oxytsearate, 1939.  
—, camphor substitute, 2050.  
Butyl acetyl-ricinoleate, 1939.  
—, camphor substitute, 2050.  
Butyl acetyl-salicylate, 1963.  
—, camphor substitute, 2050.  
—, cellulose acetate plastifier, 550.  
Butyl-acetyl-tartrate, 1953.  
Butyl acid tartrate, cellulose acetate solvent, 635.  
Butyl acrylate, 1953.  
Butyl adipate, 1953.  
Butyl alcohol, 70, 1581, 1666, 1667, 1811, 1835, 1837, 1849, 1982, 1993, 2351, 2352.  
—, acetylacetone as solvent with, 53.  
—, acetyl-*p*-phenetidine as solvent with, 54.  
—, amyl butyrate as solvent with, 54.  
—, amyl carbonate as solvent with, 54.  
Butyl alcohol, amyl formate as solvent with, 54.  
—, amyl propionate as solvent with, 53.  
—, aniline acetate as solvent with, 54.  
—, benzal bromide as solvent with, 54.  
—, benzal chloride as solvent with, 54.  
—, benzanilid as solvent with, 54.  
—, benzotribromide as solvent with, 54.  
—, benzotrichloride as solvent with, 54.  
—, benzyl bromide as solvent with, 54.  
—, benzylcellulose solvent, 1588.  
—, benzyl chloride as solvent with, 54.  
—, butyl butyrate as solvent with, 54.  
—, butyl carbonate as solvent with, 54.  
—, butyl formate as solvent with, 54.  
—, butyl propionate as solvent with, 53.  
—, camphor substitute, 2050.  
—, carvone as solvent with, 53.  
—, catechol diacetate as solvent with, 54.  
—, catechol monoacetate as solvent with, 54.  
—, cellulose acetate dyed using, 650.  
—, cellulose acetate lacquer containing, 730.  
—, cellulose acetate plastifier, 930.  
—, cellulose acetate softener, 938.  
—, cellulose acetate solvent, 469, 472, 699.  
—, cellulose ester coagulated by, 133.  
—, cellulose ether coagulated by, 133, 2097.  
—, cellulose ether containing, 145.  
—, cellulose ether dyed level in presence of, 104.  
—, cellulose ether dyeing using, 2237.  
—, cellulose ether lacquer containing, 188.  
—, cellulose ether spinning bath containing, 2083.  
—, dibrombenzene as solvent with, 53.

- Butyl alcohol, dibromtoluene as solvent with, 54.  
—, diethyl carbanilid as solvent with, 54.  
—, *p*-dimethylaminobenzanilid as solvent with, 54.  
—, *p*-dimethylaminophenyl acetate as solvent with, 54.  
—, diphenylethylene diamine as solvent with, 54.  
—, epichlorhydrin as solvent with, 53.  
—, ethylbutylcellulose and, for lacquer mfr., 2426.  
—, ethyl carbonate as solvent with, 54.  
—, ethylcellulose solvent, 1437.  
—, ethyl formate as solvent with, 54.  
—, ethyl lactate as solvent with, 53.  
—, ethyl propionate as solvent with, 53.  
—, ethyl succinate as solvent with, 53.  
—, film made using, 2516.  
—, glass, laminated, made using, 2589.  
—, hexyl acetate as solvent with, 53.  
—, hydroxyquinol diacetate as solvent with, 54.  
—, hydroxyquinol monoacetate as solvent with, 54.  
—, hydroxyquinone diacetate as solvent with, 54.  
—, hydroxyquinone monoacetate as solvent with, 54.  
—, ink containing, 2547.  
—, lacquer containing, 2413, 2422, 2424, 2428.  
—, methylacetanilid as solvent with, 54.  
—, methyl acetate and, cellulose ether solvent, 99.  
—, methylbutylcellulose and, for lacquer mfr., 2426.  
—, methyl carbonate as solvent with, 54.  
—, methyl formate as solvent with, 54.  
—, methyl propionate as solvent with, 53.  
—, monobrombenzene as solvent with, 53.  
—, monobromtoluene as solvent with, 54.  
—, phenylurea as solvent with, 54.  
Butyl alcohol, pictures, transfer, made using, 2551.  
—, plastic of cellulose acetate and, 1024.  
—, polyhydroxybenzene acetates as solvent with, 54.  
—, printing, intaglio, made using, 2551.  
—, propyl butyrate as solvent with, 54.  
—, propyl carbonate as solvent with, 54.  
—, propyl formate as solvent with, 54.  
—, propyl propionate as solvent with, 53.  
—, pyrogallol diacetate as solvent with, 54.  
—, pyrogallol monoacetate as solvent with, 54.  
—, resorcinol diacetate as solvent with, 54.  
—, resorcinol monoacetate as solvent with, 54.  
—, shells, shotgun, waterproofed using, 2414.  
—, softener, 2216.  
—, tetrachlorethane and, cellulose ether solvent, 97.  
—, tricresyl phosphate and as solvent, 1905.  
—, triphenyl phosphate and as solvent, 1901.  
—, varnish containing, 2637.  
—, wetting out agent, 1235, 1236.  
*iso*Butyl alcohol, 1835, 1837.  
—, cellulose acetate precipitated by, 1043.  
—, flash point, 2060.  
—, wetting agent, 2207.  
*n*-Butyl alcohol, 1885.  
—, amines solvent for, 2009.  
—, benzaldehyde solvent with, 50.  
—, benzylethyl ether solvent with, 51.  
—, *n*-butylbenzyl ether solvent with, 52.  
—, *n*-butyl butyrate from, 685.  
—, *n*-butyl-*o*-cresyl ether solvent with, 51.  
—, *n*-butylphenyl ether solvent with, 52.  
—, butyl tartrate solvent with, 50.  
—, *n*-butyraldehyde from, 685.  
—, cellulose ether solvent, 50.  
—, chlorbenzene solvent with, 51.  
—, cyclohexanol solvent with, 50.

- n*-Butyl alcohol, cyclohexanone solvent with, 50.  
—, diamyl ketone solvent with, 52.  
—, dibenzylamine solvent with, 51.  
—, dibutyl ketone solvent with, 52.  
—, diethyl ketone solvent with, 52.  
—, diisopropyl ketone solvent with, 52.  
—, dimethylaniline solvent with, 51.  
—, diphenyl ether solvent with, 51.  
—, diphenyl methane solvent with, 51.  
—, dipropyl ketone solvent with, 52.  
—, ethylbenzene solvent with, 51.  
—, ethylbenzylaniline solvent with, 51.  
—, ethylene bromide solvent with, 50.  
—, ethylene chloride solvent with, 51.  
—, ethylene trichloride solvent with, 50.  
—, ethyl iodide solvent with, 50.  
—, flash point, 2060.  
—, furfural solvent with, 51.  
—, methyl acetate solvent with, 51.  
—, methyl acetone solvent with, 50.  
—, methyl amyl ketone solvent with, 52.  
—, methyl benzoate solvent with, 51.  
—, methylbutyl ketone solvent with, 52.  
—, methyl-*o*-cresyl ether solvent with, 50.  
—, methylene chloride solvent with, 50.  
—, methylethyl ketone solvent with, 52.  
—, methylpropyl ketone solvent with, 52.  
—, methyl salicylate solvent with, 51.  
—, monochlorobenzene solvent with, 51.  
—, pentachlorethane solvent with, 51.  
—, perchlorethylene solvent with, 51.  
—, phenol solvent with, 51.  
—, phenyl ethers solvent with, 51.  
—, phenylethylether solvent with, 51.  
—, phenylmethyl ether solvent with, 51.  
—, phenylpropyl alcohol solvent with, 51.  
*n*-Butyl alcohol, resorcinol diacetate solvent with, 51.  
—, xylene solvent with, 51.  
*sec*-Butyl alcohol, 1835, 1836.  
—, anhydride made from, 997.  
—, benzaldehyde solvent with, 50.  
—, benzylethyl ether solvent with, 51.  
—, *n*-butylbenzyl ether solvent with, 52.  
—, *n*-butyl-*o*-cresyl ether solvent with, 51.  
—, *n*-butylphenyl ether solvent with, 52.  
—, butyl tartrate solvent with, 50.  
—, cellulose ether solvent, 50.  
—, chlorobenzene solvent with, 51.  
—, cyclohexanol solvent with, 50.  
—, cyclohexanone solvent with, 50.  
—, diamyl ketone solvent with, 52.  
—, dibenzylamine solvent with, 51.  
—, dibutyl ketone solvent with, 52.  
—, diethyl ketone solvent with, 52.  
—, dimethylaniline solvent with, 51.  
—, diphenyl ether solvent with, 51.  
—, diphenyl methane solvent with, 51.  
—, dipropyl ketone solvent with, 52.  
—, diisopropyl ketone solvent with, 52.  
—, ethylbenzene solvent with, 51.  
—, ethylbenzylamine solvent with, 51.  
—, ethylene bromide solvent with, 50.  
—, ethylene chloride solvent with, 51.  
—, ethylene trichloride solvent with, 50.  
—, ethyl iodide solvent with, 50.  
—, furfural solvent with, 51.  
—, methyl acetate solvent with, 50.  
—, methyl acetone solvent with, 50.  
—, methyl amyl ketone solvent with, 52.  
—, methyl benzoate solvent with, 51.  
—, methylbutyl ketone solvent with, 52.  
—, methyl-*o*-cresyl ether solvent with, 52.  
—, methylene chloride solvent with, 50.  
—, methylethyl ketone solvent with, 52.

- sec*-Butyl alcohol, methylpropyl ketone solvent with, 52.  
—, methylsalicylate with, 51.  
—, monochlorobenzene solvent with, 51.  
—, pentachlorethane with, 51.  
—, perchlorethylene solvent with, 51.  
—, phenol solvent with, 51.  
—, phenyl ethers solvent with, 51.  
—, phenylethylether solvent with, 51.  
—, phenylmethyl ether solvent with, 51.  
—, phenylpropyl alcohol solvent with, 51.  
—, resorcinol diacetate solvent with, 51.  
—, xylene solvent with, 51.  
*ter*-Butyl alcohol, amines solvent for, 2009.  
—, cellulose acetate precipitated by, 1043.  
Butylamine, electrical discharge in fibers prevented by, 215.  
*n*-Butylamine, solubility organic compounds in, 2007.  
Butylaminonaphthalenesulfonic acid, wetting out agent, 1375.  
Butylamylcellulose, mfr., 1338.  
Butylamyl citrate, 1973.  
Butylamyl glutarate, 1973.  
Butylamyl ketone, 1877.  
Butylamyl malate, 1973.  
Butylamyl maleate, 1973.  
Butylamyl methylphthalate, 1973.  
Butylamyl phenylsuccinate, 1973.  
Butylamyl phthalate, 1973.  
Butylamyl pimelate, 1973.  
Butylamyl tartrate, 1973.  
Butylamyl terephthalate, 1973.  
Butylamyl trimesate, 1973.  
*Butyl anilidoacetate*, see *Butylphenylglycine*.  
Butylaniline, 2014.  
Butyl arachidate, 1941.  
Butylbenzene, 1810.  
*sec*-Butylbenzene, flash point, 2060.  
Butylbenzoate, 1952, 1957, 1959, 2630.  
*iso*-Butyl benzoate, 1958.  
—, cellulose ether solvent, 52.  
*n*-Butyl benzoate, 1958, 1959.  
—, cellulose ether solvent, 52.  
Butyl benzoyl-glycerate, 1953.  
Butyl benzoyl-lactate, 1953.  
Butyl benzoyl naphthoate, cellulose acetate plastifier, 550.  
Butyl benzoyl-oxyoleate, 1939.  
Butyl benzoyl-oxystearate, 1939.  
—, camphor substitute, 2050.  
Butyl benzoyl-ricinoleate, 1939.  
—, camphor substitute, 2050.  
Butyl benzoylsalicylate, 1963.  
—, camphor substitute, 2050.  
—, cellulose acetate plastifier, 550.  
Butyl benzoyl-tartrate, 1953.  
Butylbenzylcellulose, acetone solubility of, 278, 1345.  
—, alcohol solubility of, 278, 1345.  
—, benzene solubility of, 278, 1345.  
—, benzine solubility of, 278, 1345.  
—, ether solubility of, 278, 1345.  
—, ethyl acetate solubility of, 278, 1345.  
—, stretching of, 1342.  
—, tearing strength of, 1342.  
—, water solubility of, 278, 1345.  
Butylbenzyl citrate, 1973.  
*n*-Butylbenzyl ether, 1871, 1872.  
—, cellulose ether solvent, 52.  
*n*-Butylbenzyl glutarate, 1973.  
Butylbenzyl malate, 1973.  
Butylbenzyl maleate, 1973.  
Butylbenzyl methylphthalate, 1973.  
Butylbenzyl phenylsuccinate, 1973.  
Butylbenzyl phthalate, 1973.  
Butylbenzyl pimelate, 1973.  
Butylbenzyl tartrate, 1951, 1973.  
Butylbenzyl terephthalate, 1973.  
Butylbenzyl trimesate, 1973.  
Butyl borate, 1909.  
*iso*Butyl bromide, properties, 1276.  
Butylbutylanilid, 2026.  
Butylbutylene glycol, cellulose acetate plasticizer, 620.  
Butylbutylene glycol ether, cellulose acetate solvent, 665.  
Butylbutyrate, 1849, 1936, 1937.  
—, cellulose ether solvent, 54.  
—, engine fuel containing, 1910.  
—, ethyl alcohol and, cellulose ether solvent, 97.  
—, mfr., 733, 1917.  
—, methyl alcohol and, cellulose ether solvent, 97.  
—, propyl alcohol and, cellulose ether solvent, 97.  
*iso*Butyl butyrate, 1936.  
*iso*-Butyl *iso*-butyrate, benzyl alcohol substitute, 443.  
—, cellulose acetate lacquer containing, 443.

- iso*-Butyl *iso*-butyrate, fabric coated using, 2485.  
 —, tolyl alcohol substitute, 443.  
*n*-Butyl butyrate, 1936.  
 —, *n*-butyl alcohol for mfr. of, 685.  
 Butyl caprate, 1941.  
*sec*-Butyl caproate, 2026.  
 Butyl carbamate, 1955.  
 —, cellulose acetate inflammability reduced by, 942.  
 —, plastic made containing, 2563.  
*N*-Butyl carbamate, plastic made containing, 2563.  
 Butyl carbanilate, 1956, 1957.  
*iso*-Butyl carbanilate, 1956, 1957.  
*iso*Butyl carbinol, *see iso*Amyl alcohol.  
*Butyl carbitol*, *see Diethylene glycol mono-butyl ether*, *Diethylene glycol mono-n-butyl ether*.  
 Butyl carbonate, 1906.  
 —, cellulose ether solvent, 54.  
*iso*Butylcarboxyl, *see iso*Valerianic acid.  
 Butyl cellosolve, dilution ratio, 1786, 1787.  
 —, *see also Ethylene glycol mono-butyl ether*; *Ethylene glycol mono-n-butyl ether*.  
 Butylcellulose, 1337, 1339, 1655, 1989, 2623.  
 —, acetone solubility of, 278, 1345.  
 —, ageing of, 1574.  
 —, alcohol solubility of, 278, 1345.  
 —, benzene solubility of, 278, 1345.  
 —, benzene as solvent for, 1802.  
 —, benzine solubility of, 278, 1345.  
 —, benzyl-aniline combined with, 282.  
 —, benzyl-aniline plastic of, 282.  
 —, biguanide combined with, 282.  
 —, biguanide plastic of, 282.  
 —, bitumen as plasticizer for, 96.  
 —, carbazole combined with, 282.  
 —, carbazole plastic of, 282.  
 —, coating, 282.  
 —, dibenzyl-aniline combined with, 282.  
 —, dibenzyl-aniline plastic of, 282.  
 —, ether solubility of, 278, 1345.  
 —, ethyl acetate solubility of, 278, 1345.  
 —, *N*-ethylcarbazole combined with, 282.  
 —, *N*-ethylcarbazole plastic of, 282.  
 —, film, 282.  
 Butylcellulose, guanidine combined with, 282.  
 —, guanidine plastic of, 282.  
 —, insulator containing, mfr., 2443.  
 —, lacquer, 282, 1341.  
 —, mfr. of, 100, 185, 1453.  
 —, *b*-naphthylbiguanide and for lacquer mfr., 2416.  
 —, *b*-naphthylbiguanide combined with, 282.  
 —, *b*-naphthylbiguanide plastic of, 282.  
 —, stabilizing, 1340, 1341, 1574.  
 —, stretching of, 1342.  
 —, tearing strength of, 1342.  
 —, triphenylguanidine combined with, 282.  
 —, triphenylguanidine plastic of, 282.  
 —, uses, 1340.  
 —, water solubility of, 278, 1345.  
 —, *see also Dibutylcellulose*; *Mono-butylcellulose*; *Tributylcellulose*.  
 Butylcellulose linoleate, 1655.  
 —, mfr. of, 237.  
 Butyl chloracetate, 1919.  
 Butyl chloral hydrate, 1867.  
 Butyl chloride, 238, 1340, 1871, 2623.  
 —, cellulose alkylated with, 1606.  
 —, cellulose etherified by, 100, 1338, 1453.  
 —, dextrin etherified by, 100, 1453.  
 —, formic acid concentrated using, 830.  
 —, solubility, 1277.  
 —, starch etherified by, 100, 1453.  
*sec*-Butyl chloride, properties, 1276.  
 Butyl chlormyristate, cellulose acetate plasticizer, 390.  
 Butyl chlorpalmitate, cellulose acetate plasticizer, 390.  
 Butyl chlorstearate, cellulose acetate plasticizer, 390.  
 Butyl cinnamate, 1954.  
 —, cellulose acetate solvent, 876.  
 —, lacquer containing, 2544.  
 —, rubber solvent, 876.  
 Butyl citrate, 1951, 1952.  
 —, plastic made using, 2559.  
*iso*Butyl citrate, 1951, 1952.  
 —, cellulose acetate plasticizer, 460.  
*n*-Butyl citrate, 1952.  
 —, cellulose acetate plasticizer, 460.  
*sec*-Butyl citrate, 1973.  
*C*-Butyl cresol, acetic acid extracted by, 830.

- ter*-Butylcresol, 1860.  
*iso*-Butyl-*o*-cresol iodide, *see*  
*Europhen*.  
 Butyl cresoxyacetate, 1926.  
 Butyl cresoxyamyl acetate, 1926.  
 Butyl cresoxybutyl acetate, 1926.  
 Butyl cresoxyethyl acetate, 1926.  
 Butyl cresoxymethyl acetate, 1926.  
 Butyl cresoxypropyl acetate, 1926.  
*n*-Butylcresyl ether, 1870, 1873.  
*n*-Butyl-*o*-cresylether, cellulose  
 ether solvent, 51.  
 Butyl *a*-crotonate, 1954.  
*n*-Butyl cyanide, amines solvent  
 for, 2009.  
 Butyl dextrin, mfr. of, 100.  
 Butyl diethyleneglycol, 1847.  
 Butyl diethyleneglycol caprate,  
 1847.  
 Butyl diethyleneglycol caproate,  
 1848.  
*Butyl diethyleneglycol ether, see*  
*Diethyleneglycol butyl ether*.  
 Butyl diethyleneglycol laurate,  
 1848.  
 Butyl diethyleneglycol linoleate,  
 1848.  
 Butyl diethyleneglycol oleate, 1848.  
 Butyl diethyleneglycol palmitate,  
 1848.  
 Butyl diethyleneglycol ricinoleate,  
 1848.  
 Butyl diethyleneglycol stearate,  
 1848.  
 Butyl diethylglycol phosphate,  
 1897.  
 Butyl dimethylethylacetate, proper-  
 ties, 762.  
 Butyl dipropyleneglycol, 1847.  
 Butyl dipropyleneglycol caprate,  
 1847.  
 Butyl dipropyleneglycol caproate,  
 1848.  
 Butyl dipropyleneglycol laurate,  
 1848.  
 Butyl dipropyleneglycol linoleate,  
 1848.  
 Butyl dipropyleneglycol oleate,  
 1848.  
 Butyl dipropyleneglycol palmitate,  
 1848.  
 Butyl dipropyleneglycol ricinoleate,  
 1848.  
 Butyl dipropyleneglycol stearate,  
 1848.  
 Butylene, cellulose acetate softener,  
 1070.  
 Butylene, mfr. of, 100.  
 Butylene acetate, 1844.  
 Butylene benzoate, 1844.  
 Butylene chlorhydrin, 1840, 1844.  
 —, cellulose acetate solvent, 526.  
 Butyleneglycol, 1078, 1838, 1853.  
 —, amyl ether of, 1848, 1850.  
 —, butyl ether of, 1848, 1850.  
 —, diethyl ether of, 1848.  
 —, dimethyl ether of, 1848.  
 —, dipropyl ether of, 1848.  
 —, ethyl ether of, 1848, 1850.  
 —, glass, laminated, made using,  
 2587.  
 —, methyl ether of, 1848, 1850.  
 —, propyl ether of, 1848.  
 —, isopropyl ether of, 1850.  
 —, record, phonograph, made us-  
 ing, 2606.  
 —, softener, 2215.  
 —, wetting agent, 2210.  
 1.2-Butylene glycol, 1838.  
 —, cellulose etherified by, 1383.  
 1.3-Butyleneglycol, 1838, 1874.  
 —, cellulose etherified by, 1383.  
 —, glass, laminated, made using,  
 2590.  
 1.3-Butyleneglycol acetal, 1875.  
 —, cellulose acetate solvent, 534,  
 644.  
 Butyleneglycol acetate, 1921.  
 Butyleneglycol butyrate, 1921.  
 Butyleneglycol dibenzoate, lacquer,  
 unflammable made using, 670.  
 1.3-Butyleneglycol monoformate,  
 cellulose ester solvent, 198.  
 —, cellulose ether solvent, 198.  
 Butyleneglycol propionate, 1921.  
 Butylene oxide, 1390, 1398, 1658,  
 1659, 1660, 1839.  
 —, cellulose combined with, 2641.  
 —, cellulose acetate solvent, 981,  
 2564.  
 Butyl ether, 1870.  
 —, constants of, 517.  
 —, mfr., 575.  
*iso*Butyl ether, constants of, 517.  
 —, mfr., 575.  
*n*-Butyl ether, amines solvent for,  
 2009.  
 Butylethoxyethyl citrate, 1973.  
 Butylethoxyethyl glutarate, 1973.  
 Butylethoxyethyl malate, 1973.  
 Butylethoxyethyl maleate, 1973.  
 Butylethoxyethyl methylphthalate,  
 1973.



- Butylethoxyethyl phenylsuccinate, 1973.  
Butylethoxyethyl phthalate, 1973.  
Butylethoxyethyl pimelate, 1973.  
Butylethoxyethyl tartrate, 1973.  
Butylethoxyethyl terephthalate, 1973.  
Butylethoxyethyl trimesate, 1973.  
Butylethyl acetoacetate, 1929.  
Butylethylene, cellulose ether solvent, 2227.  
—, solubilizing agent, 2213, 2219.  
Butylethylene glycol, cellulose acetate plastifier, 620.  
*iso*Butyl ethylene glycol, cellulose acetate solvent, 617.  
Butylethylene glycol ether, cellulose acetate solvent, 665.  
Butyl ethylenepropylenediglycol, 1847.  
Butyl ethylenepropylenediglycol caprate, 1847.  
Butyl ethylenepropylenediglycol caproate, 1848.  
Butyl ethylenepropylenediglycol laurate, 1848.  
Butyl ethylenepropylenediglycol linoleate, 1848.  
Butyl ethylenepropylenediglycol oleate, 1848.  
Butyl ethylenepropylenediglycol palmitate, 1848.  
Butyl ethylenepropylenediglycol ricinoleate, 1848.  
Butyl ethylenepropylenediglycol stearate, 1848.  
Butyl ethylhexylacetate, 630.  
Butylethyl ketone, 1883.  
*iso*-Butylethyl ketone, 1878.  
*n*-Butylethyl sulfate mfr., 1280, 1289.  
Butyl formate, 1906, 1945, 2007.  
—, cellulose acetate solvent, 458, 549.  
—, cellulose ether solvent, 54.  
—, engine fuel containing, 1910.  
*iso*Butyl formate, cellulose acetate solvent, 458.  
—, formic acid made using, 829.  
*n*-Butylformate, amines solvent for, 2009.  
—, flash point, 2060.  
Butyl formyl naphthoate, cellulose acetate plastifier, 550.  
Butyl formyl-oxyoleate, 1939.  
Butyl formyl-oxysearate, 1939.  
—, camphor substitute, 2050.  
Butyl-formyl-ricinoleate, 1939.  
—, camphor substitute, 2050.  
Butyl formyl-salicylate, 1963.  
—, camphor substitute, 2050.  
—, cellulose acetate plastifier, 550.  
*n*-Butyl furfuryl ether, constants, 1997.  
Butyl furoate, 2000.  
—, constants, 1997.  
—, dilution ratios, 1997.  
—, solubility resins in, 1997.  
*n*-Butyl furoylacetate, cellulose acetate softener, 733.  
*sec*-Butyl glutarate, 1973.  
Butyl *d*-glycerate, 1954.  
Butylglyceryl citrate, 1973.  
Butylglyceryl glutarate, 1973.  
Butylglyceryl malate, 1973.  
Butylglyceryl maleate, 1973.  
Butylglyceryl methylphthalate, 1973.  
Butylglyceryl phenylsuccinate, 1973.  
Butylglyceryl phthalate, 1973.  
Butylglyceryl pimelate, 1973.  
Butylglyceryl tartrate, 1973.  
Butylglyceryl terephthalate, 1973.  
Butylglyceryl trimesate, 1973.  
Butyl glycol, 1850, 1854, 1906.  
—, ethylbutylcellulose and for lacquer mfr., 2426.  
—, lacquer containing, 2420.  
—, methylbutylcellulose and for lacquer mfr., 2426.  
*iso*Butyl glycol, cellulose ester solvent, 57.  
—, cellulose ether solvent, 57.  
*n*-Butyl glycol, cellulose ester solvent, 57.  
—, cellulose ether solvent, 57.  
Butylglycol caprate, 1939.  
Butylglycol caproate, 1939.  
Butylglycol citrate, 1973.  
Butylglycol ether, cellulose ether solvent, 239.  
—, cellulose nitrate solvent, 239.  
Butylglycol glutarate, 1973.  
Butyl glycollate, methylcellulose plastifier, 202.  
*iso*Butyl glycollate, 1941.  
—, cellulose ester plasticizer, 169.  
—, cellulose ether plasticizer, 169.  
—, methylcellulose plasticizer, 169, 202.  
*n*-Butyl glycollate, 1941.  
—, cellulose ester plasticizer, 169.  
—, cellulose ether plasticizer, 169.

- n*-Butyl glycolate, methylcellulose plasticizer, 169.  
Butylglycol laurate, 1939.  
Butylglycol linoleate, 1939.  
Butylglycol malate, 1973.  
Butylglycol maleate, 1973.  
Butylglycol methylphthalate, 1973.  
Butylglycol oleate, 1939.  
Butylglycol palmitate, 1939.  
Butylglycol phenylsuccinate, 1973.  
Butylglycol phosphate, 1897.  
Butylglycol phthalate, 1973, 1975, 1976.  
Butylglycol pimelate, 1973.  
Butylglycol ricinoleate, 1939.  
Butylglycol stearate, 1939.  
Butylglycol tartrate, 1973.  
Butylglycol terephthalate, 1973.  
Butylglycol trimesate, 1973.  
*Butyl hexahydrobenzoate*, see *Butyl naphthenate*.  
Butylhexyl citrate, 1973.  
Butylhexyl glutarate, 1973.  
Butylhexyl malate, 1973.  
Butylhexyl maleate, 1973.  
Butylhexyl methylphthalate, 1973.  
Butylhexyl phenylsuccinate, 1973.  
Butylhexyl phthalate, 1973.  
Butylhexyl pimelate, 1973.  
Butylhexyl tartrate, 1973.  
Butylhexyl terephthalate, 1973.  
Butylhexyl trimesate, 1973.  
Butyl hippurate, 1952.  
Butyl hydrogen phthalate, 948.  
Butylin, lacquer containing, 2397.  
Butyl iodide, 1255.  
—, solubility, 1277.  
*iso*-Butyl iodide, cellulose etherified using, 1298.  
*n*-Butyl iodide, cellulose etherified using, 1298.  
Butyl lactate, 1942, 1944, 1945, 1952, 1974.  
—, benzene and, cellulose ether solvent, 1802.  
—, cellulose acetate solvent, 998.  
—, cellulose ether lacquer containing, 188.  
—, cellulose ether solvent, 93.  
—, floor covering made using, 2437.  
—, glass, laminated, made using, 2590.  
*n*-Butyl lactate, 1945.  
*Butyl lactic acid*, see *Iso-oxybutyric acid*.  
Butyl laurate, 1941, 2053.  
Butyl linoleate, 1938.  
Butyl malate, 1952.  
—, mfr., 1949.  
*sec*-Butyl malate, 1973.  
Butyl maleate, 1952, 1989.  
—, mfr., 1949.  
*sec*-Butyl maleate, 1973.  
Butyl margarate, cellulose ether coagulant, 2097.  
Butyl mesitylenate, 1952.  
*n*-Butyl mesotartrate, 1951.  
Butyl *b*-methyladipate, 1953.  
Butylmethyl ketone, 1883.  
*sec*-Butyl methylphthalate, 1973.  
Butylmonobenzylin, 203.  
Butylmonobenzylin acid phthalate, cellulose ester plasticizer, 203.  
—, cellulose ether plasticizer, 203.  
Butylmonobenzylin mannitol, 1974.  
Butylmonobenzylin oxalate, cellulose ester plasticizer, 203.  
—, cellulose ether plasticizer, 203.  
Butylmonobenzylin phthalate, 1974.  
—, cellulose ester plasticizer, 203.  
—, cellulose ether plasticizer, 203.  
Butylmonobenzylin sorbitol, 1974.  
Butylmonobenzylin succinate, cellulose ester plasticizer, 203.  
—, cellulose ether plasticizer, 203.  
Butylmonoethylin, 203.  
Butylmonoethylin acid phthalate, cellulose ester plasticizer, 203.  
—, cellulose ether plasticizer, 203.  
Butylmonoethylin oxalate, cellulose ester plasticizer, 203.  
—, cellulose ether plasticizer, 203.  
Butylmonoethylin phthalate, cellulose ester plasticizer, 203.  
—, cellulose ether plasticizer, 203.  
Butylmonoethylin succinate, cellulose ester plasticizer, 203.  
—, cellulose ether plasticizer, 203.  
Butyl mucate, 1952.  
Butyl myristate, 1941.  
Butyl naphthalenesulfonate, 2035.  
—, cellulose acetate dyed using, 671.  
—, cellulose acetate mfr. in presence of, 783.  
—, ethylcellulose plasticizer, 151.  
Butyl naphthalenesulfonic acid, dimethylcellulose emulsifier, 119.  
—, emulsification using, 2451.  
*iso*Butyl naphthalene sulfonic acid, 2240.  
Butyl naphthenate, 1966.  
— acetic acid extracted using, 1016.  
Butyl naphthoxyacetate, 1928.

- Butyl naphthoyl benzoate, 2630.  
*n*-Butyl nitroacetate, 1945.  
*n*-Butyl nitrolactate, 1946.  
 Butyl oleate, 1938.  
 —, cellulose ester coagulated by, 133.  
 —, cellulose ether coagulated by, 133, 2097.  
 —, cellulose ether softener, 2080.  
 —, physical constants, 1793.  
 Butyl oleosulfonate, cellulose ether softener, 234.  
 Butyl oxalate, 1942, 1945, 1947, 1948, 1952, 2001, 2027.  
 —, cellulose ether solvent, 93.  
 —, film made using, 2503.  
 —, mfr., 1917.  
*iso*Butyl oxalate, 1948.  
*n*-Butyl oxalate, 1948.  
*iso*Butyl oxanilate, 1979.  
 Butyl oxyacetanilid, 2023.  
 —, cellulose ether plastifier, 174.  
 —, inflammability of cellulose ether reduced by, 174.  
 Butyl palmitate, 1938.  
 —, cellulose ester coagulated by, 133.  
 —, cellulose ether coagulated by, 133, 2097.  
*n*-Butyl palmitate, properties, 732.  
 Butyl pelargonate, 1941.  
 Butyl pentyl ketone, 1877.  
*p*-*ter*-Butylphenol, 1860.  
 Butyl phenoxyacetate, 1928.  
*iso*Butyl phenylcarbamate, 2629.  
*n*-Butylphenyl ether, 1871, 1873.  
 —, cellulose ether solvent, 52.  
 Butyl phenylglycine, 1893.  
 Butyl phenylmalonate, 1952.  
*sec*Butyl phenylsuccinate, 1973.  
 Butyl phosphate, 1899, 1952.  
 Butyl phthalate, 1078, 1090, 1572, 1839, 1850, 1906, 1938, 1944, 1945, 1947, 1952, 1967, 1968, 1969, 1970, 1971, 1972, 1972, 1973, 1974, 1976, 2041, 2046, 2625.  
 —, benzylcellulose plasticizer, 295.  
 —, celluloid solvent, 890.  
 —, cellulose acetate plastifier, 938.  
 —, cellulose acetate solvent, 813, 890, 1785.  
 —, cellulose ester plasticizer, 291.  
 —, cellulose ether plasticizer, 291.  
 —, ethylbenzylcellulose plasticizer, 236.  
 —, ethylbutylcellulose and for lacquer mfr., 2408, 2426.  
 Butyl phthalate, ethylbutylcellulose plasticizer, 236.  
 —, ethylcellulose combined with, 2410.  
 —, ethylcellulose plasticizer, 236.  
 —, lacquer containing, 2413, 2420, 2424, 2427, 2428.  
 —, methylbutylcellulose and for lacquer mfr., 2426.  
 —, plastic containing, 2569, 2570.  
 —, rubber combined with, 2410.  
 —, shells, shotgun, waterproofed using, 2414.  
 —, stencil sheet made using, 2491.  
 —, uses, 1970.  
 —, waterproofing regenerated cellulose for, 2412.  
 —, waterproofing using, 2637.  
*iso*Butyl phthalate, 1969.  
 —, cellulose ether plasticizer, 243.  
 —, ethylcellulose plasticizer, 151, 243.  
*n*-Butyl phthalate, 1971.  
*sec*-Butyl phthalate, 1973.  
*sec*-Butyl pimelate, 1973.  
 Butyl propionate, 1846, 1849, 1932, 1933, 1941, 1944, 1945, 1988.  
 —, benzylcellulose solvent, 1555, 1588.  
 —, cellulose acetate plastifier, 939.  
 —, cellulose ether emulsified in presence of, 2452.  
 —, cellulose ether solvent, 53.  
 —, cellulose nitrate solvent, 267.  
 —, engine fuel containing, 1910.  
 —, ethyl alcohol and, cellulose ether solvent, 97.  
 —, mfr., 1917.  
 —, methyl alcohol and, cellulose ether solvent, 97.  
 —, propyl alcohol and, cellulose ether solvent, 97.  
 —, tricresyl phosphate and as solvent, 1905.  
 —, wetting agent, 2207.  
*n*-Butyl propionate, 1933.  
*sec*-Butyl propionate, 2026.  
 Butylpropionylanilid, 2026.  
 Butylpropionyl naphthoate, cellulose acetate plastifier, 550.  
 Butylpropionyl oxyoleate, 1939.  
 Butylpropionyl oxystearate, 1939.  
 —, camphor substitute, 2050.  
 Butylpropionylricinoleate, 1939.  
 —, camphor substitute, 2051.  
 Butylpropionylsalicylate, 1963.  
 —, camphor substitute, 2051.

- Butylpropionylsalicylate, cellulose acetate plastifier, 550.  
 Butylpropylene glycol, cellulose acetate plastifier, 620.  
*iso*Butyl propylene glycol, 1853.  
*n*-Butyl propylene glycol, 1853.  
 Butylpropylene glycol ether, cellulose acetate solvent, 665.  
 Butyl ricinoleate, 1925, 1938, 2053.  
 Butyl salicylate, 1952, 1963.  
*iso*Butyl salicylate, 1963.  
 —, cellulose ether solvent, 52.  
*n*-Butyl salicylate, 1963.  
 —, cellulose ether solvent, 52.  
 solvent, 52.  
 Butyl silicate, 2058.  
 —, melting point of cellulose acetate raised by, 762.  
 Butyl starch, mfr. of, 100, 236.  
 Butyl starch abietate, mfr. of, 236.  
 Butyl starch benzoate, mfr. of, 236.  
 Butyl starch laurate, mfr. of, 236.  
 Butyl starch linoleate, 1340.  
 —, mfr. of, 236.  
 Butyl starch oleate, mfr. of, 236.  
 Butyl starch palmitate, mfr. of, 236.  
 Butyl starch phenylacetate, mfr. of, 236.  
 Butyl starch salicylate, mfr. of, 236.  
 Butyl starch stearate, mfr. of, 236.  
 Butyl starch undecylate, mfr. of, 236.  
 Butyl stearate, 1809, 1872, 1889, 1938, 1940, 1941, 1945, 1976, 1989.  
 —, benzylcellulose plastifier, 1576.  
 —, celluloid solvent, 890.  
 —, cellulose acetate solvent, 890, 1785.  
 —, cellulose ester coagulated by, 133.  
 —, cellulose ether coagulated by, 133, 2097.  
 —, emulsion containing, 2453.  
 —, ethylbenzylcellulose plasticizer, 236.  
 —, ethylbutylcellulose plasticizer, 236.  
 —, ethylcellulose plasticizer, 236.  
 —, plastic containing, 1676.  
 —, plasticizing value, 1794.  
*n*-Butyl stearate, 1941.  
 —, amines solvent for, 2009.  
 —, properties, 732.  
 Butyl succinate, 1949, 1952.  
 —, mfr., 1949.  
 Butyl succinylsuccinate, 1952.  
 Butylsulfanilic acid, wetting out agent, 1375.  
*n*-Butyl sulfo-oleate, 2451.  
*n*-Butyl sulfuricinoleate, 2451.  
 Butyl tartrate, 1076, 1080, 1572, 1913, 1925, 1947, 1951, 1952, 1969, 1989, 2526.  
 —, benzylcellulose plasticizer, 188, 295.  
 —, cellulose acetate plastifier, 938.  
 —, cellulose acetate solvent, 941.  
 —, cellulose ether solvent, 50.  
 —, ethylcellulose plasticizer, 188.  
 —, film made using, 2506.  
 —, lacquer containing, 2395.  
 —, mfr., 593, 1917.  
 —, stencil sheet made using, 2491, 2494.  
*iso*Butyl tartrate, 1951, 1952.  
 —, cellulose acetate plasticizer, 460.  
*n*-Butyl tartrate, 1952.  
 —, cellulose acetate plasticizer, 460.  
*sec*Butyl tartrate, 1973.  
*sec*Butyl terephthalate, 1973.  
*iso*Butyl thioglycollate, 1941.  
 —, cellulose ester plasticizer, 169.  
 —, cellulose ether plasticizer, 169.  
 —, methylcellulose plasticizer, 169.  
*n*-Butyl thioglycollate, 1941.  
 —, cellulose ester plasticizer, 169.  
 —, cellulose ether plasticizer, 169.  
 —, methylcellulose plasticizer, 169.  
 Butyl toluate, 1952.  
 Butyltoluenesulfanilid, 2025.  
 Butyl triethyleneglycol, 1847.  
 Butyl triethyleneglycol caprate, 1847.  
 Butyl triethyleneglycol caproate, 1848.  
 Butyl triethyleneglycol laurate, 1848.  
 Butyl triethyleneglycol linoleate, 1848.  
 Butyl triethyleneglycol oleate, 1848.  
 Butyl triethyleneglycol palmitate, 1848.  
 Butyl triethyleneglycol ricinoleate, 1848.  
 Butyl triethyleneglycol stearate, 1848.  
 Butyl trimesate, 1952.  
*sec*-Butyl trimesate, 1973.  
 Butyl valerianate, 1938.  
 —, mfr., 1917.  
 Butylvalerylaniid, 2026.  
 Butyraldehyde, 1867.

- n*-Butyraldehyde, *n*-butyl alcohol for mfr. of, 685.  
 Butyric-acetic anhydride, mfr., 997.  
 Butyric acid, 907, 1656, 1700, 1701, 1702, 1739, 1892.  
 —, acetic acid separated from, 965.  
 —, amyl acetate for extracting, 716.  
 —, artificial rubber made using, 383.  
 —, cellulose acetate printing using, 608.  
 —, cellulose acetate swelling agent, 728.  
 —, cellulose butyrate made using, 529, 559.  
 —, cellulose ether softener, 2218.  
 —, cellulose pretreated with, 905, 929, 930.  
 —, concentrating, 715, 1049.  
 —, delustring by, 2344.  
 —, esterifying with, 968.  
 —, extraction, 801.  
 —, mfr., 832, 858, 1033.  
 —, pattern effects on cellulose acetate by, 774.  
 —, separating, 858.  
 —, toluene for extracting, 716.  
 —, xylene for extracting, 716.  
*n*-Butyric acid, cellulose butyrate made using, 588.  
*dioxy*-Butyric acid, *see* *Dioxybutyric acid*.  
 Butyric anhydride, 185, 907, 1064, 1659, 1700, 1701, 1702, 1739.  
 —, cellulose acetobutyrate made using, 833.  
 —, cellulose butyrate made using, 529, 559, 588, 832, 833, 875.  
 —, cellulose pretreated with, 929.  
 —, esterifying with, 968.  
 —, mfr., 454, 771.  
 —, properties, 732.  
*iso*-Butyric anhydride, 1064.  
 —, cellulose acetobutyrate made using, 833.  
 Butyric esters, 1935.  
 Butyric ether, *see* *Ethyl butyrate*.  
 Butyrin, 1925.  
 —, cellulose acetate gelatinizer, 536.  
 Butyrocellulose, 1700.  
 Butyrochlorol, *see* *Butyl alcohol*.  
 Butyrodipalmitin, properties, 732.  
 Butyrodistearin, properties, 732.  
 Butyrolactone, cellulose solvent, 662.  
 Butyrene, 1877, 1883.  
 Butyrene, acetic acid solvent, 905.  
 —, *see also* *Dipropylketone*.  
 Butyronitrile, *see* *Propylcyanide*.  
 Butyro-phenone, *see* *Propyl phenyl ketone*.  
 Butyrylamylaniline, 2018.  
 Butyrylanisidin, 2023, 2141.  
 —, cellulose ester plasticizer, 270.  
 —, cellulose ether plasticizer, 174, 270.  
 —, inflammability of cellulose ether reduced by, 174.  
 Butyrylbromaniline, 2014.  
 —, benzylcellulose treated with, 1563.  
 —, cellulose acetate plasticizer, 292.  
 —, cellulose propionate plasticizer, 292.  
 —, ethylcellulose plasticizer, 292.  
 Butyrylbutylaniline, 2018.  
 Butyrylcellulose, *see* *Cellulose butyrate*.  
 Butyrylchloraniline, 2014, 2017.  
 —, benzylcellulose treated with, 1563.  
 —, cellulose acetate plasticizer, 292.  
 —, cellulose ether plasticizer, 174.  
 —, cellulose propionate plasticizer, 292.  
 —, ethylcellulose plasticizer, 292.  
 —, inflammability of cellulose ether reduced by, 174.  
 Butyryl chloride, 328, 1656, 1700.  
 —, aldehyde made with, 480.  
 —, cellulose butyro-ricinoleate made with, 1713.  
 —, cellulose ricinoleo-butyrates made with, 1713.  
 Butyryl citrate, 1952.  
*b*-Butyryl dichlorhydrin, properties, 732.  
 Butyrylethylaniline, 2018.  
 Butyryl-formate, 1701.  
 Butyrylhydrocellulose, *see* *Hydrocellulosebutyrate*.  
 Butyrylmethylaniline, 2018.  
 Butyrylmonobromaniline, cellulose ether plastifier, 174.  
 —, inflammability of cellulose ether reduced by, 174.  
 Butyrylphenetidol, 2023, 2041.  
 —, cellulose ester plastifier, 270.  
 —, cellulose ether plastifier, 174, 270.  
 —, inflammability of cellulose ether reduced by, 174.  
 Butyryl phenylmalonate, 1952.

Butyryl phthalate, 1852.  
Butyrylpropylaniline, 2018.  
Butyryl succinate, 1952.  
Butyryl succinylsuccinate, 1952.  
Butyryl tartrate, 1952.  
Butyryl trimesate, 1952.

Cabbage, cellulose from, acetylating, 705.

Cabins, aircraft, insulating, cellulose acetate for, 2439.

Cable, cellulose acetate in insulating, 855.

—, cellulose acetate in mfr. of, 1014.

—, ethylcellulose coating, for, 128.

—, ethyltoluenesulfonamide in insulating, 855.

—, high-tension, mfr., cellulose ether for, 2444.

—, impregnation, benzylcellulose for, 1565.

—, insulating, benzylcellulose for, 86.

—, —, benzylstarch for, 86.

—, —, cellulose acetate for, 854, 928, 2439.

—, —, cellulose acetobutyrate for, 980.

—, —, cellulose butyro-laurate for, 1718.

—, —, cellulose ether for, 2442.

—, —, ethylcellulose for, 86.

—, —, ethylcellulose palmitate for, 1670.

—, —, ethylcellulose stearate for, 1670.

—, —, ethylstarch for, 86.

—, —, propylnaphthalene for, 1718.

—, —, transformer oil for, 1718.

—, toluenesulfonamidid in insulating, 855.

—, tolyl phosphate in insulating, 855.

*Cacao*, see *Cocoa*.

*Cadaverine*, see *Pentamethylene-diamine*.

Cade oil, 2446.

Cadmium, acetic anhydride mfr. using, 632.

—, catalyst in acetaldehyde mfr., 588.

Cadmium acetate, catalyst in acetic anhydride mfr., 843.

Cadmium amyl phthalate, 1974.

Cadmium butyl phthalate, 1974.

Cadmium butyl resin, properties, 613.

Cadmium chloride, catalyst in acetic anhydride mfr., 843.

Cadmium chromate, catalyst, 876.

Cadmium iodide, film, non-static, made using, 661.

Cadmium molybdate, catalyst, 876.

Cadmium-monoamyl phthalate, lacquer containing, 2396.

—, lacquer of cellulose acetate and, 613.

Cadmium-monobutyl phthalate, lacquer containing, 2396.

—, lacquer of cellulose acetate and, 613.

Cadmium monoethyl phthalate, lacquer containing, 2396.

—, lacquer of cellulose acetate and, 613.

Cadmium-monopropyl phthalate, lacquer containing, 2396.

—, lacquer of cellulose acetate and, 613.

Cadmium oxide, catalyst, 876.

—, catalyst in acetic anhydride mfr., 843.

Cadmium phosphate, catalyst in acetic acid mfr., 976.

Cadmium sulfate, cellulose ester dyed using, 239.

—, cellulose ether colored using, 2476.

—, cellulose ether dyed using, 239.

—, methylcellulose for dispersing, 2478.

Cadmium sulfide, catalyst, 876.

—, cellulose ether colored using, 2476.

—, delustring using, 2180.

Caesium chloride, etherifying cellulose in presence of, 1449.

*Cajeputol*, see *Cineol*.

Caffeine, amines solvent for, 2009.

Caffeol, ethyl chloride as solvent, for, 1273.

—, methyl chloride solvent for, 1253.

*Calcitone*, see *Acetone*; *Methyl acetate*; *Tetrachlorethane*.

Calcium, cellulose treated with, 1431.

—, ethyl acetoacetate made using, 1931.

—, water combined with, 111.

- Calcium acetate, 2142.  
—, acetic acid made from, 620.  
—, acetic anhydride mfr. using, 522.  
—, amines solvent for, 2009.  
—, waterproofing with, 218.  
Calcium alcoholate, ethyl alcohol made using, 863.  
Calcium  $\alpha$ -amylose-phosphate, 1154.  
Calcium  $\alpha$ -amylose-silicate, 1154.  
Calcium antimonates, catalyst, 864.  
Calcium arsenate, catalyst, 864.  
Calcium bisulfate, alphasellulose made using, 503.  
—, catalyst in cellulose formate mfr., 904.  
Calcium borate, catalyst, 866.  
Calcium bromide, cellulose acetate preserved by, 714.  
—, cellulose acetate solubility in, 574.  
—, cellulose formate solvent, 463.  
Calcium butylglyceryl phthalate, cellulose acetate plastifier, 1016.  
—, mfr., 1016.  
*n*-Calcium butyrate, amines solvent for, 2009.  
Calcium carbide, acetic acid, from, 518.  
Calcium carbonate, 2004.  
—, acetic anhydride mfr. using, 632.  
—, alkylating in presence of, 301.  
—, cellulose acetate delustred by, 747.  
—, cellulose acetate saponified by, 501.  
—, cellulose ether delustred by, 271.  
—, cellulose etherified in presence of, 1451.  
—, cellulose ether thickener for, printing on, 102.  
—, cellulose nitrate viscosity reduced by, 918.  
—, delustring by, 271.  
—, film dulled by, 1096.  
—, glycols made using, 489.  
—, mother-of-pearl containing, 2610.  
—, pearls containing, 2610.  
—, synthesis, pearl, using, 2611.  
Calcium caseinate, 2057.  
Calcium chlorate, cellulose acetate dyed using, 531.  
Calcium chlorate, cellulose ether dyeing assistant, 2222.  
Calcium chloride, 1076, 1684, 1989, 2059, 2080, 2242.  
—, acetic acid concentrated by, 832.  
—, acetic anhydride mfr. using, 522, 632.  
—, benzylcellulose waterproofed by, 2158.  
—, catalyst in cellulose formate mfr., 904.  
—, cellulose acetate delustred by, 722.  
—, cellulose acetate dyed in presence of, 511.  
—, cellulose acetate lacquer containing, 599.  
—, cellulose acetate precipitant, 670.  
—, cellulose acetate preserved by, 714.  
—, cellulose acetate saponified by, 501.  
—, cellulose acetate shrinkage prevented by, 804.  
—, cellulose acetate stretch spinning in bath of, 785.  
—, cellulose acetate swelling agent, 642.  
—, cellulose ether clarity increased by, 1366.  
—, cellulose ether dehydrated using, 2337.  
—, cellulose ether dyed using, 2300.  
—, cellulose etherified in presence of, 1441.  
—, cellulose ether precipitant, 63, 191, 2087.  
—, cellulose ether spinning bath containing, 2082.  
—, cellulose formate solvent, 388, 463.  
—, cellulose treated with, 1137.  
—, crepe effect produced by, 935, 2333, 2334.  
—, crepe effect with cellulose acetate and, 1013.  
—, delustring using, 2179, 2197.  
—, ethylcellulose precipitated by, 191.  
—, ethylcellulose waterproofed by, 2158.  
—, fabric tautness induced by, 460.  
—, filaments softened by, 1069.  
—, film made using, 2507.  
—, luster preserved by, 2172, 2173.

- Calcium chloride, methylcellulose waterproofed by, 2158.  
—, spinning in presence of, 1070.  
—, viscosity reduced by, 541.  
—, waterproofing with, 218.  
—, wetting agent, 2207.  
Calcium citrate, cellulose acetate inflammability reducer, 92.  
—, cellulose ether inflammability reducer, 92.  
—, cellulose nitrate inflammability reducer, 92.  
—, cellulose nitrate solvent, 1893.  
—, scroop imparted by, 2203.  
Calcium dihydrogen phosphate, 135.  
Calcium formate, 2142.  
—, amines solvent for, 2009.  
—, formic acid from, 527, 1015.  
*Calcium hydrate, see Calcium hydroxide.*  
Calcium hydride, cellulose treated with, 1431.  
Calcium hydroxide, ethyl alcohol made using, 863.  
—, water combined with, 111.  
Calcium hypochloride, cellulose treated with, 1141.  
Calcium hypochlorite, cellulose oxidized by, 12.  
Calcium iodide, cellulose acetate solubility in, 574.  
—, starch, acetylating, in presence of, 837.  
Calcium isothiocyanate, cellulose ether solvent, 97.  
—, film made using, 2528.  
Calcium lactate, 1993.  
—, cellulose nitrate solvent, 1893.  
—, crepe effect using, 2334.  
—, crepe effect with cellulose acetate and, 1013.  
Calcium levulinate, cellulose nitrate solvent, 1893.  
Calcium ligninsulfonate, 1632.  
Calcium lignonesulfonate, 1622.  
Calcium methoxyacetate, 864.  
Calcium naphthenate, benzene solvent of, 107.  
—, cellulose acetate stabilizer, 595, 725.  
—, silk sized using, 259.  
—, size containing, 2309.  
—, sizing with, 107.  
—, stabilizer, 595.  
—, stencil sheet made using, 976, 2490.  
Calcium naphthenate, toluene solvent of, 107.  
—, turpentine oil solvent of, 107.  
—, xylene solvent of, 107.  
*Calcium B-naphthol-a-sulfonate, see Asaprol.*  
Calcium nitrate, 1686.  
—, cellulose acetate dyed using, 531.  
—, cellulose acetate precipitant, 49.  
—, cellulose acetate solubility modified by, 1059.  
—, cellulose acetate solvent, 574.  
—, cellulose ether dyeing assistant, 2222.  
—, cellulose ether precipitant, 49, 1589, 2086.  
—, cellulose formate solvent, 463.  
—, crepe effect using, 2334.  
—, crepe effect with cellulose acetate and, 1013.  
—, delustring using, 2179.  
—, film, non-static, made using, 661.  
—, sulfuric acid neutralized by, 472.  
Calcium oleate, caoutchouc and for varnish, 249.  
—, cellulose acetate saponified by, 501.  
—, cellulose ester and for varnish, 249.  
—, cellulose ether and for varnish, 249.  
—, emulsifying with, 267.  
—, silk sized using, 259.  
—, size containing, 2309.  
Calcium oxalate, cellulose nitrate solvent, 1893.  
—, scroop produced by, 935, 2203.  
Calcium oxide, cellulose acetate saponified by, 501.  
—, cellulose treated with, 1431.  
—, ethyl alcohol made using, 863.  
—, water combined with, 111.  
Calcium perchlorate, bleaching cellulose by, 1411.  
—, catalyst in cellulose acetate mfr., 688.  
—, cellulose purified by, 1411.  
Calcium phosphate, benzylcellulose treated with, 1561.  
—, catalyst, 866.  
—, catalyst acetic acid mfr., 516.  
—, cellulose acetate delustred by, 747, 767.  
—, cellulose acetate inflammability reducer, 92.



- Calcium phosphate, cellulose ether inflammability reducer, 92.  
—, cellulose nitrate inflammability reducer, 92.  
—, dull effect produced using, 2363.  
—, loading with, 2151.  
—, matt effect produced using, 2363.  
—, synthesis, pearl, using, 2611.  
Calcium resinate, 1972.  
—, benzene solvent of, 107.  
—, caoutchouc and for varnish, 249.  
—, cellulose ester and for varnish, 249.  
—, cellulose ether and for varnish, 249.  
—, cellulose ether thickener in dyeing, 135.  
—, size containing, 2309.  
—, size for cellulose acetate, 1003, 1004.  
—, sizing with, 107.  
—, toluene solvent of, 107.  
—, turpentine oil solvent of, 107.  
—, xylene solvent of, 107.  
Calcium resinoleate, solvent, 1796.  
Calcium ricinoleate, 1941.  
Calcium *iso*-saccharinate, 543.  
Calcium silicate, catalyst, 866.  
—, tetrachlorethane solidified in, 439.  
Calcium starch, 1155.  
Calcium stearate, silk sized using, 259.  
—, size containing, 2309.  
Calcium sulfate, 1075, 2059.  
—, abrasive containing, 940.  
—, acetic anhydride mfr. using, 522, 632.  
—, benzylcellulose waterproofed by, 2158.  
—, card, playing, mfr. using, 2609.  
—, cellulose acetate delustred by, 747, 767.  
—, cellulose acetate inflammability reducer, 92, 558.  
—, cellulose ether delustred by, 271.  
—, cellulose ether inflammability reducer, 92.  
—, cellulose nitrate inflammability reducer, 92.  
—, coating, fire-resistant, containing, 687.  
—, delustring by, 271.  
—, ethylcellulose waterproofed by, 2158.  
Calcium sulfate, inflammability reduced by, 43.  
—, fire-retardant, 1374.  
—, methylcellulose waterproofed by, 2158.  
—, plastic made using, 2580.  
—, synthesis, pearl, using, 2611.  
—, *see also Gypsum*.  
Calcium sulfide, cellulose acetate filament containing, 932.  
—, filament treated with, 2363.  
—, phosphorescence produced by, 1372.  
—, *see also Alkali waste*.  
Calcium sulfocyanide, cellulose ether solvent, 108.  
Calcium *iso*-sulfocyanide, cellulose ether solvent, 108.  
Calcium tartrate, benzylcellulose treated with, 1561.  
—, cellulose acetate inflammability reducer, 92.  
—, cellulose ether inflammability reducer, 92.  
—, cellulose nitrate inflammability reducer, 92.  
—, cellulose nitrate solvent, 1893.  
—, coating, fire-resistant, containing, 687.  
—, scroop imparted by, 2203.  
—, tricresyl phosphate and as solvent, 1905.  
Calcium thiocyanate, 93, 1688, 2142, 2316, 2319, 2352.  
—, alkylcellulose porosity increased by, 1346.  
—, benzylcellulose waterproofed by, 2158.  
—, cellulose acetate crinkled by, 500.  
—, cellulose acetate delustred by, 500, 767, 1037.  
—, cellulose acetate precipitating bath component, 818.  
—, cellulose acetate relustred by, 623, 631, 943.  
—, cellulose acetate solubility in, 574.  
—, cellulose acetate solvent, 456, 567, 2075.  
—, cellulose acetate swelling agent, 501, 1043.  
—, cellulose acetate treated with, 2315.  
—, cellulose dissolved by, 496.  
—, cellulose ether dyed using, 2336.

- Calcium thiocyanate, cellulose ether softener, 2155, 2336.
- , cellulose ether solvent, 97, 2075.
- , cellulose ether strengthened by, 2131.
- , cellulose ether swelled by, 264.
- , cellulose formate solvent, 640.
- , cellulose purified by, 1408.
- , delustring prevented by, 133, 2192.
- , discharge effects on cellulose acetate with, 613.
- , dye removed from cellulose acetate by, 825.
- , dyestuff fixative, 456.
- , ethylcellulose waterproofed by, 2158.
- , film made using, 2528.
- , formylnitrate solvent, 640.
- , lustring with, 2200.
- , mercerizing by, 505.
- , methylcellulose waterproofed by, 2158.
- , solvent, 1797.
- , starch, acetylating, in presence of, 837.
- , viscose treated with, 2315.
- Calcium tungstate, acetic anhydride, mfr., 754, 769.
- , catalyst, 864, 876.
- , screen, fluorescent, made using, 503, 2541.
- , X-ray screen made using, 597.
- Calcium-zinc sulfocyanide, cellulose ether solvent, 108.
- Calcium-zinc *iso*-sulfocyanide, cellulose ether solvent, 108.
- Calcium zinc thiocyanate, cellulose ether solvent, 2082.
- Caledon jade green, 219, 1682.
- , cellulose acetate dyed using, 723.
- , cellulose ester dyed using, 264.
- , cellulose ether dyed using, 264, 2147.
- , cotton dyed using, 723.
- , dyeing with, 2243.
- Caledon Red BN, cellulose acetate dyed using, 723.
- , cotton dyed using, 723.
- Caliche*, *see* *Sodium nitrate*.
- Calico, methylation of, 27.
- Camelic oil, stencil sheet made using, 976.
- van Campen method, 855.
- Camphene, 1985, 2045.
- Camphene chloride, 2047.
- Camphene hydrochlorate, 2047.
- Camphol, cellulose acetate solvent, 699.
- , *see also* *Borneol*; *Oxanilid*.
- Camphor, 9, 340, 1030, 1857, 1887, 1894, 1913, 1921, 1949, 1966, 1970, 1972, 1983, 2003, 2004, 2026, 2041, 2043, 2047, 2048, 2049, 2058.
- , benzylcellulose and, 1581.
- , benzylcellulose and as plastic, 60.
- , benzylcellulose plasticizer, 188.
- , benzylcellulose solvent, 1545.
- , benzylstarch and, 1581.
- , bromo, cellulose ether inflammability reduced by, 182.
- , cellulose acetate plastifier for, 352, 365, 367, 377, 383, 384, 405, 573, 1011.
- , cellulose acetate plastic containing, 87, 422.
- , cellulose acetate solvent, 407, 472, 1818, 1819, 1843.
- , cellulose ether plasticizer, 22.
- , cellulose ether solvent, 239, 1841.
- , cellulose formate plastic containing, 87.
- , cellulose nitrate plastic containing, 87.
- , cellulose nitrate plasticizer, 243, 352, 367.
- , cellulose nitrate solvent, 239.
- , copal plasticizer, 573.
- , dichlorethane solvent for, 1816.
- , ethylcellulose and, 1581.
- , ethylcellulose and as plastic, 60.
- , ethylcellulose plasticizer, 188.
- , ethylcellulose solvent, 19.
- , filament, voluminous, made using, 1071, 1075.
- , film made using, 2507, 2518.
- , glass, laminated, made with, 480, 2585, 2594.
- , methylcellulose and as plastic, 60.
- , methylcellulose plasticizer, 243.
- , plastic made using, 2559, 2563.
- , properties, 728.
- , record, phonograph, containing, 914, 2604.
- , solvents for, 1849.
- , starch ether solvent, 1483.
- , stencil sheet made using, 2489.
- , tricresyl phosphate and as solvent, 1905.
- , waterproofing with, 2157.

- Camphor, wetting out agent, 1235.  
—, *see also Anemonin*.  
d-Camphor, amines solvent for, 2009.  
Camphoral, 1907.  
Camphor monobromide, 1826.  
—, cellulose acetate plasticizer, 398.  
Camphor monochloride, cellulose acetate plasticizer, 398.  
Camphor oil, 1963, 2045, 2046, 2047.  
—, cellulose acetate solvent, 1818.  
—, cellulose ester plasticizer, 291.  
—, cellulose ether plasticizer, 291.  
—, heavy, 2003.  
—, —, cellulose acetate solvent, 1819.  
—, light, cellulose acetate solvent, 1818, 1819.  
—, tricresyl phosphate and as solvent, 1905.  
Camphorosol, 2034.  
Canada balsam, 2045.  
—, screen, fluorescent, made using, 2541.  
Candelilla wax, delustring with, 2182.  
Candle, cellulose acetate coated, 439.  
Cane sugar, 314.  
—, acetate of, 311.  
—, cellulose acetate relustred by, 608.  
—, delustring restrainer, 2198.  
—, *see also Saccharose, Sucrose*.  
Cannabis Indica, 2446.  
—, *see also Indian hemp*.  
"Canned heat," 555.  
Cannes blue, cellulose acetate dyed, 1034.  
Cantharides, 2446.  
Cantharidin, 2446.  
Canvas, cellulose acetate for impregnating, 414.  
—, cellulose ether for impregnating, 2473.  
—, groundwork for, cellulose ether for, 2408.  
—, rot-proofing, cellulose butyrate for, 1702.  
—, tautening, cellulose acetate for, 628.  
b-Caoupren chloride, film, laminated, made using, 2599.  
Caoutchouc, barium oleate and for varnish, 249.  
Caoutchouc, barium resinate and for varnish, 249.  
—, butylcellulose with, 1340.  
—, calcium oleate and for varnish, 249.  
—, calcium resinate and for varnish, 249.  
—, cellulose acetate and for waterproofing, 431.  
—, cellulose acetate combined with, 393.  
—, chlorinated, stencil sheet made using, 2497.  
—, dichlorethylene solvent for, 1823.  
—, fabric waterproofed by, 482.  
—, glass, laminated, made using, 690, 2587.  
—, lacquer of, cellulose ether and, 2404.  
—, magnesium oleate and for varnish, 249.  
—, magnesium resinate and for varnish, 249.  
—, strontium oleate and for varnish, 249.  
—, strontium resinate and for varnish, 249.  
—, trichlorethylene solvent for, 1823.  
—, waterproofing compound containing, 575.  
—, *see also Rubber*.  
Cap, cellulose acetate for, 525.  
—, percussion, benzylcellulose for coating, 2471.  
—, —, cellulose ester for protecting, 185.  
—, —, protecting, cellulose ether for, 185.  
*Capping bottles, see Bottles, capping*.  
Capri blue, 2170.  
—, cellulose acetate dyed with, 511, 609.  
Capric acid, cellulose acetate plastic with, 564.  
*Caprylic acid, see Caprylic acid*.  
Caprin, 1655.  
*Caprinic acid, see Capric acid*.  
Caproic acid, cellulose acetate plastic with, 564.  
*Caproic ether, see Ethyl caproate*.  
Caproin, 1655.  
Caprone, 1877.  
*Capronic ether, see Ethyl caproate*.

*Capronitrile*, see *Amyl cyanide*, *iso-Amyl cyanide*.

Caprylic acid, cellulose acetate plastic with, 564.

*Caprylic ether*, see *Ethyl caproate*.

Caprylin, 1655.

Caps, shoe hook, celluloid in mfr., 2472.

Capsicin, 2446.

Capsicum, 2446.

Capsule, bottle, mfr. of, 2398.

—, cellulose acetate, shrinking, 804.

—, cellulose acetate for mfr. of, 2523.

—, ethylcellulose for mfr. of, 2523.

—, ethylcellulose acetate for mfr. of, 2523.

—, ethylcellulose propionate for mfr. of, 2523.

Caramel, delustring with, 2187.

Caraway chaff oil, 2045.

Caraway oil, 1890, 2048.

—, see also *Oil of caraway*.

Caraway seed oil, 2044, 2045.

Carbamates, 1955.

Carbamic esters, 1955.

Carbamide, alkylated, cellulose ester dyed using, 264.

—, —, cellulose ether dyed using, 264.

—, aminoarylated, cellulose ether dyed with, 179.

—, aralkylated, cellulose ester dyed using, 264.

—, —, cellulose ether dyed using, 264.

—, arylated, cellulose ester dyed using, 264.

—, —, cellulose ether dyed using, 264.

—, cellulose ether dyed using, 2269.

—, methyl sulfate in mfr. of, 1264.

—, nitroarylated, cellulose ether dyed with, 179.

—, unsulfonated, cellulose ether dyed with, 179.

—, see also *Urea*.

Carbanilate, 1956.

Carbanilic esters, 1957.

*Carbanilides*, see *Diphenylurea*.

Carbazole, 2014.

—, benzylcellulose combined with, 282.

—, benzylcellulose stabilizer, 1574.

—, butylcellulose and, 1341.

—, butylcellulose combined with, 282.

Carbazole, butylcellulose stabilizer, 1574.

—, cellulose acetate dyed using, 608.

—, coating containing, 282.

—, delustring with, 2185.

—, dispersing agent, 2209, 2452.

—, film containing, 282.

—, lacquer containing, 282, 2416.

—, nitro-derivatives of, cellulose ether dyed using, 2296.

—, stabilizer, 1574.

—, wetting agent, 2208.

*Carbazotic acid*, see *Picric acid*.

Carbethoxyglycocoll, 1389.

Carbides, plastic of cellulose acetate and, 808.

Carbimides, cellulose ether softener, 2155.

*Carbinol*, see *Methyl alcohol*.

Carbitol, cellulose acetate solvent, 801.

—, see also *Di-ethylene glycol monoethyl ether*.

Carbitol acetate, cellulose acetate solvent, 801.

*Carbitone*, see *Tetrachlorethane*.

Carbocyanidine, delustring with, 2185.

*Carbocinchomeronic acid*, see *Pyridinetricarboxylic acid*.

Carbocyanins, halation avoided by, 2509.

*Carbohydrate allyl ether*, see *Allylcellulose*.

Carbohydrate esters, 1648.

Carbohydrate ether, mfr. of, 238, 240, 2493.

—, stencil sheet made using, 2493, 2496.

Carbohydrate ether-esters, 1648, 1650.

Carbohydrate phosphate, mfr., 438.

Carbohydrates, acetation, 315, 441.

—, benzylated, 1296, 1514.

—, benzylation, determination, 1531.

—, constitution of, 314.

—, dextrinized, 1404.

—, diphenylethylene oxide compound with, 64.

—, esterifying, 683.

—, etherifying, 1418.

—, ethylene imide compound with, 64.

—, ethylene sulfide compound with, 64.

- Carbohydrates, fumacylglycidic acid compound with, 64.  
—, glycidic acid compound with, 64.  
—, hydrobromic action on, 1135.  
—, hydrofluoric acid on, 1320.  
—, hydroxyalkyl ether of, sizing with, 282.  
—, methylating, 301.  
—, methylphenylethylene oxide compound with, 64.  
—, propylene oxide compound with, 64.  
—, space groups of, 301.  
—, sulfuric esters of, 649.  
—, trimethylene oxide compound with, 64.  
Carbohydrate xanthate, nitrogen tetroxide action on, 654.  
—, nitrogen trioxide action on, 654.  
Carbol, cellulose acetate solvent, 1819.  
*Carbolic acid*, see *Phenol*.  
"Carbolineum," lacquer containing, 1036.  
*p*-Carbomethoxybenzoyl chloride, aldehyde made with, 480.  
Carbon, catalyst, 154.  
—, conductors, electric, insulator for, made using, 2442.  
—, graphitic, ink made using, 2474.  
—, plastic of cellulose acetate and, 817.  
*Carbona*, see *Tetrachlormethane*.  
*a*-Carbonaphthoic acid, see *a*-Oxynaphthoic acid.  
Carbon bisulfide, 29.  
—, alkalicellulose compound with, 305.  
—, amines solvent for, 2009.  
—, benzylcellulose solvent, 1797.  
—, b. pt. methyl alcohol with, 1831.  
—, cellulose aceto-butyro-laurate as solvent for, 286.  
—, cellulose butyro-laurate as solvent for, 286.  
—, cellulose dinaphthenate as solvent for, 286.  
—, cellulose etherified using, 255.  
—, cellulose ether lacquer containing, 2464.  
—, cellulose ether made using, 250.  
—, cellulose ether solvent, 154, 244, 1797, 2523, 2545.  
—, cellulose laurate as solvent for, 286.  
—, cellulose naphthenate-laurate as solvent for, 286.  
Carbon bisulfide, cellulose pre-treated with, 1428.  
—, cellulose treated with, 250.  
—, ethylcellulose solvent, 154, 1797.  
—, oil removed by, 158.  
—, rubber solvent, 2545.  
—, toxicity of, 555.  
—, triethylcellulose solvent, 150, 199, 200, 286.  
Carbon black, delustring with, 2175.  
*Carbon dichloride*, see *Carbon bichloride*.  
Carbon dioxide, cellulose etherified in presence of, 1435.  
—, cottonseed oil treated with, 984.  
—, linseed oil treated with, 984.  
—, soya bean oil treated with, 984.  
—, tung oil treated with, 984.  
*Carbon disulfide*, see *Carbon bisulfide*.  
*Carbon filaments*, see *Filaments, carbon*.  
*Carbon hexachloride*, see *Carbon trichloride, Hexachlorethane*.  
Carbonic ester, 1906.  
*Carbonitride*, see *Cyanamide*.  
Carbonizing, 2203, 2382.  
Carbon monoxide, cellulose etherified in presence of, 1435.  
Carbon oxysulfide, 539.  
*Carbon paper*, see *Paper, carbon*.  
Carbon sulfide, acetone purified by, 524.  
Carbon tetrabromide, 1139.  
Carbon tetrachloride, 1091, 1852, 1863, 1910, 1993.  
—, acetic acid extracted by, 629, 836.  
—, acetic acid recovery using, 724.  
—, acetic acid solvent, 905.  
—, acetic and formic acid separated by, 1000.  
—, acetic anhydride made using, 769.  
—, alkalicellulose made in presence of, 59.  
—, amyl acetate and, cellulose ether solvent, 99.  
—, benzene and, cellulose ether solvent, 1802.  
—, benzylcellulose solvent, 1554.  
—, b. pt. methyl alcohol with, 1831.  
—, butyl acetate and, cellulose ether solvent, 99.  
—, cellulose acetate cleaned by, 1072.

- Carbon tetrachloride, cellulose acetate non-solvent, 1016.  
—, cellulose acetate solvent, 1819.  
—, cellulose acetate swelling agent, 908, 912.  
—, cellulose acetated in presence of, 350.  
—, cellulose alkalinized in presence of, 1430.  
—, cellulose ester inflammability reducer, 1017.  
—, cellulose ether non-solvent, 2091.  
—, cellulose ether plastic made using, 2635.  
—, cellulose ether softener, 2133.  
—, cellulose ether solvent, 8, 1447, 1841, 2079, 2351.  
—, cellulose ether solvent of benzene and, 54.  
—, cellulose formate made in presence of, 363.  
—, chlorhydrins made using, 503.  
—, crepe effect using, 2334.  
—, cresol with as plastic, 561.  
—, dye solvent, 749.  
—, esters manufactured in presence of, 580.  
—, ethyl acetate and, cellulose ether solvent, 99.  
—, ethyl alcohol and, cellulose ether solvent, 99.  
—, ethylcellulose solvent, 19, 191, 284, 1457.  
—, formaldehyde with as plastic, 561.  
—, formic and acetic acid separated by, 1000.  
—, hexachloride made using, 925.  
—, methyl acetate and, cellulose ether solvent, 99.  
—, monobenzylcellulose solvent, 1518.  
—, plastic made containing, 2565.  
—, propyl acetate and, cellulose ether solvent, 99.  
—, starch ether solvent, 1483.  
—, tar-oil with as plastic, 561.  
—, tricresyl phosphate and as solvent, 1905.  
—, *see also Tetrachlormethane*.  
Carbon-tetrachloride-alcohol, ethylcellulose xanthanilide solvent, 1644.  
*Carbon-trichloride, see Hexachlorethane*.  
Carbonylbisimidine, cellulose acetate delustred by, 962.  
Carbonyl chloride, acetic anhydride made using, 735, 1047.  
—, catalyst in acetic anhydride mfr., 843.  
—, cellulose ether dyed using, 2287.  
—, cellulose purified by, 1409.  
—, ethyl chloride as solvent for, 1273.  
—, methoxyacetic anhydride made with, 186.  
—, methyl chloride solvent for, 1253.  
*Carbonyldiamide, see Urea*.  
Carbonyl J, nitrobenzylcellulose dyed with, 1597.  
o-Carbophenylglyoxylic acid, 1978.  
Carborundum, 2193.  
—, acetic anhydride made using, 769.  
—, cellulose ester delustred by, 221.  
—, cellulose ether delustred by, 221.  
—, delustring with, 2914.  
*Carbostyryl, see Hydroxyquinoline (2)*.  
Carboxyalkylcellulose, 2241.  
Carboxyalkylcellulose ester, 1398.  
Carboxyalkylcellulose ether, sizing of, 263.  
Carboxylated azo dyes, cellulose acetate dyed, 547.  
Carboxylic acid amides, 2634.  
Carboxymethylcellulose, 199, 1660.  
—, *see also Cellulose glycollic acid*.  
o-Carboxyphenyliminodiacetic acid, cellulose acetate dyed using, 597.  
—, cellulose ether dyed using, 2279.  
Card, index, mfr., 2608.  
—, playing, alkylcellulose acetate in mfr. of, 292.  
—, —, alkylcellulose in mfr. of, 292.  
—, —, antimony oxide for, 203.  
—, —, bismuth oxychloride for, 203.  
—, —, cellulose acetate in mfr. of, 707.  
—, —, cellulose ester-ether for, 203.  
—, —, cellulose ether for, 203.  
—, —, lithopone for, 203.  
—, —, mfr. of, 292.  
—, —, opaque, mfr., of, 292.  
—, —, titanium oxide for, 203.  
—, —, zinc oxide for, 203.  
Cardboard, cellulose for, 449.  
—, waterproofing, 449.  
Cardinal, cellulose acetate dyed, 612.  
Carmine blue, 160.  
Carnauba wax, 2053, 2377.

- Carnauba wax, cellulose acetate lacquer containing, 841.  
—, cellulose acetate waterproofed by, 935.  
—, coating containing, 201.  
—, crayons made using, 2423, 2540.  
—, delustring with, 2182.  
—, methylcellulose plastic containing, 291.  
—, filament sized with, 1071.  
—, leather dressing made using, 868.  
—, wax, sealing, made using, 2540.  
Caroa fibers, 1172.  
Caroubin, 2594.  
—, glass, laminated, made with, 164.  
Carragheen, ethers of, 44.  
Carthamic acid, *see* Carthamin.  
Carton, cellulose acetate in mfr., 819.  
Cartridge, *blasting, see* *Blasting cartridge.*  
Cartridge, cellulose ester for waterproofing, 231.  
—, cellulose ether for waterproofing, 231.  
—, *film, see Film, cartridge.*  
—, shotgun, moisture-proofing, benzylcellulose for, 1568.  
—, —, paper tubes of, cellulose ester for protecting, 2471.  
—, —, —, cellulose ether for protecting, 2471.  
—, —, waterproofing, 2157.  
—, waterproofing, 231.  
Carvacrol, 1861, 1930, 2032, 2045.  
—, airplane coated with, 2484.  
—, cellulose acetate solvent, 582.  
Carvene, 1963.  
—, cellulose acetate solvent, 1818.  
Carvene oil, cellulose acetate solvent, 1819.  
Carvol, 1863, 1930, 1964, 2032.  
—, airplane coated with, 2484.  
—, cellulose acetate solvent, 582, 1818.  
—, *see also Carvone.*  
Carvone, 1986, 2046, 2048.  
—, cellulose ether solvent, 53.  
Caryophyllic acid, *see* Eugenol.  
Case, cartridge, benzylcellulose for waterproofing, 202.  
—, —, ethylcellulose for water proofing, 202.  
—, —, methylcellulose for waterproofing, 202.  
Case, cartridge, waterproofing, 202.  
—, shot-cartridge, mfr. cellulose ester in, 1081.  
Casein, 173, 1858, 1865, 2032, 2055, 2057.  
—, airplane coated with, 2484.  
—, amines solvent for, 2009.  
—, cellulose acetate combined with, 573, 992.  
—, cellulose acetate dyed using, 504.  
—, cellulose acetate filament sized using, 1015.  
—, cellulose acetate impregnated with, 934.  
—, cellulose acetate membrane containing, 1052.  
—, cellulose acetate treated with formaldehyde and, 937.  
—, cellulose diformate combined with, 1017.  
—, cellulose ether emulsified in presence of, 2452.  
—, cellulose ether plastic of, 96, 127, 193.  
—, cellulose ether softener, 2218.  
—, cellulose nitrate film coated with, 706.  
—, crepe effect made using, 2338.  
—, delustring with, 2187.  
—, fabric, balloon, made using, 891.  
—, fabric printed using, 2344.  
—, film made using, 2528, 2529.  
—, glass, laminated, made using, 2585.  
—, hollow filament made using, 829.  
—, horn, artificial, made using, 1579, 2607.  
—, paper waterproofed by, 645.  
—, plastic of cellulose ester and, 352.  
—, resist containing, 2317.  
—, silk combined with, 2335.  
—, size for artificial filament, 1015.  
—, sizing with, 2139, 2140, 2141.  
—, softener for cellulose ether, 164.  
—, stencil sheet made using, 2495, 2499.  
—, synthesis, pearl, using, 2611.  
—, textiles waterproofed by, 645.  
Caseinates, *see* Casein.  
Cashew nut oil, cellulose acetate softener, 2398.  
Cassia, oil of, 1962, 2044, 2045.  
—, *see also Oil of Cassia.*  
Castalan, cellulose acetate dyed, 1034.

- Casterol, plasticizing value, 1794.  
 —, *see also* *Blown castor oil*.  
*Cast iron, see Iron, cast*.  
 Castor oil, 345, 1962, 1973, 2053, 2139, 2175.  
 —, acetylated, mfr., 629, 2056.  
 —, benzyl alcohol solvent for, 1862.  
 —, benzylcellulose coagulated by, 259, 1582.  
 —, benzylcellulose lacquer containing, 1588.  
 —, benzylcellulose plastifier, 1579.  
 —, benzylcellulose purified with, 93, 1546, 1550.  
 —, butyl acetate solvent of, 1919.  
 —, caterpillar entangled with, 711.  
 —, cellulose acetate coagulated by, 259.  
 —, cellulose acetate filament mfr. using, 342.  
 —, cellulose acetate plastic containing, 404.  
 —, cellulose acetate precipitant, 516, 624, 627.  
 —, cellulose acetate softener, 443, 450, 934.  
 —, cellulose butyrate coagulated by, 259.  
 —, cellulose ether collodion containing, 2446.  
 —, cellulose ether lubricant, 303.  
 —, cellulose ether plastifier, 244.  
 —, cellulose ether precipitant, 68, 2085.  
 —, cellulose ether softener, 203, 2122.  
 —, cellulose ether solvent, 1841.  
 —, cellulose formate coagulated by, 259.  
 —, cellulose propionate coagulated by, 259.  
 —, cement, waterproof, containing, 431.  
 —, collar waterproofed by, 566.  
 —, delustring with, 2182.  
 —, emulsion containing, 1569.  
 —, ethylcellulose coagulated by, 259.  
 —, ethylcellulose solvent, 19, 1300.  
 —, fabric, waterproof, made using, 713.  
 —, glass, laminated, made using, 2587, 2590.  
 —, insect entangled with, 711.  
 —, insulating using, 825.  
 —, leather, artificial, made using, 468.  
 Castor oil, nitrated, 2056.  
 —, —, cellulose nitrate emulsifier, 267.  
 —, —, emulsifying with, 267.  
 —, oxidized, cellulose acetate softener, 459.  
 —, paint containing, 2544.  
 —, pictures, transfer, made using, 2551.  
 —, plasticizing value, 1794.  
 —, plastic made using, 2572, 2579.  
 —, printing ink containing, 2329.  
 —, *n*-propyl acetate solvent of, 1917.  
 —, screen, fluorescent, made using, 2541.  
 —, sheet, flexible, made using, 468.  
 —, sizing with, 2140.  
 —, softener, 2216.  
 —, starch ether solvent, 1483.  
 —, stencil made using, 663, 1569.  
 —, stencil sheet made using, 661, 663, 664, 763, 1488, 2489, 2490, 2494, 2496.  
 —, sulfonated, cellulose ether softener, 2218.  
 —, —, film made using, 2528.  
 —, —, lacquer containing, 2415.  
 —, —, wetting agent, 2208.  
 —, tinting cellulose ether using, 2231.  
 —, toluene solvent for, 1805.  
 —, transfer, gold, made using, 2550.  
 Catalyst, 154.  
 —, *m*-phosphoric acid, 140.  
 —, *o*-phosphoric acid, 140.  
 —, sodium acid sulfate, 523.  
 —, sodium bisulfate, 523.  
 —, zinc chloride as, 484.  
 —, *see also* *Contact mass; Individual chemicals; Promoters*.  
*Catalytic agents, see Catalysts*.  
*Catalyzer, see Catalyst*.  
*Catamenial pad, see Pad, catamenial*.  
*Catechin, see Catechol*.  
*Catechinic acid, see Catechol*.  
 Catechol, 1860, 2172.  
 —, bromide derivative of, fire-retardant, 1374.  
 —, bromo, cellulose ether inflammability reduced by, 182.  
 —, cellulose acetate solvent, 966.  
 —, cellulose ether solvent, 106.  
 —, film made using, 2510.  
 —, *see also* *Pyrocatechin*.



- Catechol acid, 1175.  
Catechol diacetate, 1927.  
—, cellulose ether solvent, 54.  
*Catechol dimethyl ether, see Pyrocatechin dimethyl ether.*  
Catechol monoacetate, 1927.  
—, cellulose ether solvent, 54.  
*Catechol monomethyl ether, see Guaiacol.*  
Catechu, cellulose acetate dyed by, 512.  
*Catechuic acid, see Catechol.*  
Caterpillar, castor oil for entangling, 711.  
—, cellulose acetate for entangling, 711.  
Cat's eye, chatoyant effect produced with, 566.  
—, nacreous effect produced with, 566.  
*Caustic potash, see Potassium hydroxide.*  
*Caustic soda, see Sodium hydroxide.*  
Cedar leaf oil, 1963, 2045.  
—, cellulose acetate solvent, 1818, 1819.  
Cedar oil, 1963.  
—, delustring with, 2174.  
Cedar wood, film made using, 2524.  
Cedar wood oil, 1963.  
—, cellulose acetate solvent, 1818, 1819.  
—, *see also Oil, cedar wood.*  
Celanese, 780.  
—, cellulose acetate dyestuff, 677.  
—, delustring, 909.  
—, dyeing, 517, 897.  
—, dyeing properties, 909.  
—, filaments of, properties, 656, 657.  
—, finishing, 897.  
—, fluorescence, 909.  
—, mfr., 639.  
—, microscopic examination, 848.  
—, properties, 656, 657, 909.  
Celanese Faille Moire, cellulose acetate fabric, 630.  
Celanese size, cellulose acetate dyed in presence of, 651.  
Celastoid, 502, 2567.  
Celatene, 727.  
—, cellulose acetate dyed by, 619.  
—, cellulose ether dyed using, 2291, 2292.  
Celatene black, cellulose ether dyed using, 2301.  
Celatene dye, application of, 2312.  
—, cellulose acetate colored by, 663.  
*Celery oil, see Oil of celery.*  
Celfect, 500.  
Cell, dry, seal for, cellulose ether for, 2408.  
—, —, —, pitch for, 2408.  
—, —, —, rosin for, 2408.  
—, —, —, sealing wax for, 2408.  
—, electrolytic, cellulose ether for, 1334.  
—, —, ethylcellulose for, 1334.  
—, selenium, cellulose acetate in, 816.  
—, spinning, 2111.  
Cellacet, cellulose acetate dyesuff, 677.  
Cellan, mfr., 800.  
—, methylated, 1320.  
Cellemit, 2567.  
Cellit, 358, 371, 659, 2567.  
—, cellulose acetate dyed by, 619, 708, 920.  
—, cellulose ester dyed using, 2290.  
—, leather, artificial, made using, 461.  
—, uses, 438.  
Cellitazol, cellulose acetate dyed using, 708.  
—, cellulose ester dyed using, 2290.  
Cellitazol AZ, cellulose ether dyed using, 2291.  
Cellitazol B, cellulose ether dyed using, 2291.  
Cellitazol ORB, cellulose ether dyed using, 2291.  
Cellitazol R, cellulose ether dyed using, 2291.  
Cellitazol RB, cellulose ether dyed using, 2291.  
Cellitazol SR, cellulose ether dyed using, 2291.  
Cellitazol STA, cellulose ether dyed using, 2291.  
Cellitazol STN, cellulose ether dyed using, 2291.  
Cellit dye, application of, 2312.  
Cellit Fast Blue A, 909.  
Cellit Fast Red, 945.  
Cellit fast yellow GGN, cellulose ester dyed using, 2290.  
—, cellulose ether dyed using, 2291.  
*Cellit L, see Cellit.*  
Celliton, 900, 2352.

- Celliton, cellulose acetate dyed using, 650, 708, 809.  
—, cellulose ester dyed using, 2290.  
—, cellulose ether dyed with series, 2234.  
Celliton fast colors, 2352.  
—, cellulose acetate dyed using, 650.  
Celliton fast dyes, 2321.  
Celliton orange GR, cellulose ether dyed using, 2291.  
Celliton orange R, cellulose ether dyed using, 2291.  
Celliton yellow 5G, cellulose ether dyed using, 2291.  
Cellobase, 2567.  
Cellobiosan, methylation of, 2621.  
Cellulobiose, 116, 357, 657, 659, 892, 1102, 1110, 1114, 1126, 1127, 1177, 1306, 1311, 1322, 1510.  
—, acetated, 311.  
—, cellulobiose octo-acetate from, 1126.  
—, isolating, 1110.  
—, mfr., 702.  
—, methylation of, 75, 188, 230, 1111, 1126.  
—, properties, 543.  
Celloisobiose, 1112.  
*iso*-Cellulobiose, 1322.  
Cellulobiose acetate, 418, 419, 659, 965.  
Celloisobiose acetate, 658, 659.  
Cellulobiose bromide hepta-acetate, 733.  
Cellulobiose hepta-acetate, 1720.  
Cellulobiose octo-acetate, 75, 80, 379, 433, 658, 659, 702, 826, 908, 1110, 1113, 1126, 1127, 1128, 1129, 1131, 1180, 1322, 1323, 1370.  
—, mfr. of, 205, 246, 366, 536.  
—, methylated, 1126.  
—, *see also* *Octoacetyl cellulobiose*.  
Cellodextrins, 1114.  
—, methylated, 280, 1324.  
Cellodextrin acetate, 658, 659, 1313.  
Cellodextrin I, methylation of, 77, 1307.  
—, methylcellulose from, 77.  
Cellodextrin II, methylation of, 77.  
—, methylcellulose from, 77.  
Celloglass, 836.  
—, waterproofing, 139.  
Celloglucosan, 1313.  
*Celloidin*, *see* *Cellulose nitrate*.  
Cellon, 455, 457, 665, 903, 2567.  
—, lacquer, uses, 526.  
Cellon, properties, 683, 689.  
—, uses, 438, 441, 526.  
—, waterproofing, 448.  
Cellonation, 455.  
Cellon lacquer, 457.  
Cellon varnish, 430.  
Cellophane, 903, 1017, 1414.  
—, drying, 268.  
—, etherifying, 47.  
—, lacquer-coated, 268.  
—, mfr., 268.  
—, metal foil coated with, 424.  
—, permeability, 944.  
—, waterproofing, 139.  
Cellosan, 711, 1112.  
Cellose, 1510.  
Cellose octa-acetate, constants of, 462.  
Cellosite, 2567.  
"Cellosolve," 1809, 1851.  
—, cellulose acetate solvent, 801, 924.  
—, dilution ratio, 1786, 1787.  
—, *see also* *Ethylene glycol monoethyl ether*.  
Cellosolve acetate, 1921.  
—, cellulose acetate solvent, 801.  
—, dilution ratio, 1786, 1787.  
—, physical constants, 1792.  
Cellosolve phthalate, 1976.  
Cellotetrose, 1510.  
*iso*-Cellotriose, mfr., 700.  
Celloxan, 2351.  
—, cellulose acetate dyed with, 548, 556, 650.  
Celloxin, etherification of, 12.  
Celluglucosan, 73.  
Celluin, 2567.  
Cellulin, 507.  
Celluloid, 1667.  
—, acetone solvent for, 1879.  
—, benzylcellulose for, 46, 86.  
—, benzylstarch for, 86.  
—, card, playing, made using, 2608.  
—, cellulose acetate coated, 707.  
—, cellulose acetate in simulating, 580.  
—, cellulose ether for mfr. substitute for, 192.  
—, cleaning, 425.  
—, decorating, cellulose acetate for, 940.  
—, dental plate containing, 2537.  
—, disc, polishing, dental, made using, 2539.

- Celluloid, emulsifying, methylcellulose for, 2454.  
 —, ethylcellulose for, 86.  
 —, ethylstarch for, 86.  
 —, filling, dental, made using, 2539.  
 —, film, colored, made using, 2532.  
 —, film cement containing, 430.  
 —, foil made using, 999.  
 —, glass, laminated, made with, 480, 820, 2585.  
 —, *incombustible*, see *Celluloid*, *uninflammable*.  
 —, inflammability, reducing, 918.  
 —, mfr. of, inulin in, 1157.  
 —, marking, cellulose acetate for, 940.  
 —, methylcellulose for emulsifying, 2454.  
 —, paint containing, 1585.  
 —, paint for, 756.  
 —, pigmented, mfr., 803.  
 —, polish, shoe, made using, 689.  
 —, polishing device, dental, made using, 2539.  
 —, printing on, ink for, 2330.  
 —, propylcellulose for, 1338.  
 —, silk impregnated with, 331.  
 —, slow-burning, mfr., 523.  
 —, solvents for, 1786.  
 —, stencil sheet made using, 2488, 2489.  
 —, substitute, 570, 1658.  
 —, —, acetone solvent for, 1879.  
 —, —, benzylcellulose for, 58, 178.  
 —, —, cellulose acetate for, 339, 340, 346, 452, 494, 559.  
 —, —, cellulose acetate in mfr. of, 468.  
 —, —, chloral alcoholate in mfr. of, 468.  
 —, —, chloral hydrate in mfr. of, 468.  
 —, —, coumarone resin in mfr. of, 468.  
 —, —, ethylcellulose for, 58, 178, 236.  
 —, —, methyl alcohol in mfr., 1829.  
 —, —, methylcellulose for, 58, 178.  
 —, —, tetrachlorethane in mfr. of, 468.  
 —, substitute for, 292.  
 —, surface treating, cellulose acetate for, 840.  
 —, *uninflammable*, cellulose propionate for, 1698.  
 —, —, see also *Celluloid*, *incombustible*.  
 Celluloid, wool impregnated with, 331.  
 —, see also *Cellulose nitrate*.  
 Celluloid film, mfr., 251.  
 Cellulose, 1101.  
 —, *acetated*, see *Cellulose acetate*.  
 —, acetates of, 310.  
 —, acetating, 686, 850, 851, 856.  
 —, —, acetic anhydride vapor for, 412.  
 —, —, ammonium chloride catalyst in, 412.  
 —, —, copper (ic) chloride catalyst in, 412.  
 —, —, iron (ic) chloride catalyst in, 412.  
 —, —, mechanics of, 847.  
 —, —, sulfuric acid function in, 856.  
 —, —, temperature of, governing, 738.  
 —, —, tin (ous) chloride catalyst in, 412.  
 —, acetating superficially, 393.  
 —, acetation of, 309, 417.  
 —, —, sodium acid sulfate catalyst in, 523.  
 —, —, sodium bisulfate catalyst in, 523.  
 —, —, vacuum for, 371.  
 —, *acetic sulfuric ester of*, see *Cellulose acetosulfate*.  
 —, acetolysis, 25, 357, 379, 418, 426, 647, 657, 691, 826, 892, 908, 918, 923, 964, 1111, 1126, 1129, 1322, 1323.  
 —, acetolysis products of, 1130.  
 —, *acetylated*, see *Cellulose acetate*.  
 —, acetylating, 334, 593, 595, 893, 901.  
 —, —, acetic acid in, recovery, 679.  
 —, —, continuous, 868.  
 —, —, cooling prior to, 450.  
 —, —, sulfur dioxide in, 915.  
 —, —, superficial, 340, 857.  
 —, —, velocity of, 595.  
 —, —, see also *Cellulose*, *acetating*.  
 —, acetyl bromide action on, 591.  
 —, *acetylied*, see *Cellulose acetate*.  
 —, acids action of, 1134.  
 —, *acylation*, see *Cellulose*, *acetylating*; *Cellulose nitration*.  
 —, adsorption capacity, 985.  
 —, aerobic decomposition of, 541.  
 —, alcohol vapor sorption by, 1067.  
 —, aldehyde from, 1138.  
 —, alkali absorption by, 1143, 1144.

- Cellulose, alkali-soluble, ethylating, 1312.  
—, —, methylating, 1312.  
—, alkylated, acetolysis of, 72.  
—, —, cosmetic mfr. using, 87.  
—, —, detergent mfr. using, 87.  
—, —, disinfectant mfr. using, 87.  
—, —, soap mfr. using, 87.  
—, alkylating, 252, 910, 1299, 1429.  
—, *alkylation*, see *Cellulose, ethylation; Cellulose, methylation*.  
—, allylating, 298, 910, 1636.  
—, allyl ether of, mfr., 99.  
—, aluminum chloride for carbonizing, 951.  
—, aminated, 1638, 1758.  
—, amines solvent for, 2009.  
—, ammonium chloride action on, 1137.  
—, ammonium persulfate action on, 1140.  
—, *animal*, see *Animal cellulose*.  
—, animalized, mfr. of, 278.  
—, ash in, 1109.  
—, —, determination of, 2647.  
—, ash of, 1109.  
—, bagasse, esterifying, 729.  
—, beetling, changes induced by, 447.  
—, benzoate, 357.  
—, benzoylation, 357, 594, 1603.  
—, benzylating, 293, 1297, 1514, 1525, 1528, 1529, 1530.  
—, benzyl esters of, mfr., 1514.  
—, benzyl ether of, 69.  
—, bleaching, 1140.  
—, blending, 1234.  
—, board made using, 725.  
—, board, insulation, electric, made using, 2445.  
—, butyl chloride for etherification of, 100.  
—, butyration of, 529.  
—, cabbage, acetylating, 705.  
—, calcium chloride action on, 1137.  
—, carbon bisulfide in etherifying, 255.  
—, cellobiose from, 647.  
—, cellobiose octo-acetate from, 1126.  
—, *α*-cellulose in, determination of, 2648.  
—, *α*-cellulose content of, 1109.  
—, cellulose ester coated with, 302.  
—, cellulose ether coated with, 302.  
Cellulose, cerium salts action on, 1137.  
—, chloracetic acid treatment of, 449.  
—, chloracetic ether in etherifying, 255.  
—, chloracetonitrile for etherifying, 273.  
—, chloral compound of, mfr., 494.  
—, chlorates action on, 1140.  
—, chlorinated, dyeing, 787.  
—, —, mfr., 578.  
—, —, powdered, mfr., 697.  
—, chlorinating, 698.  
—, chlorine action on, 1138, 1140.  
—, *a*-chlorpropionitrile for etherifying, 273.  
—, *b*-chlorpropionitrile for etherifying, 273.  
—, chromic acid action on, 1140.  
—, clarified, 1407.  
—, colloidal nature of, 514.  
—, colloidizing, 93, 1412.  
—, comminution, 1412.  
—, *compound*, see *Compound cellulose*.  
—, conditioning, 1413.  
—, constitution, 543, 811, 1110, 1116.  
—, copper number of, 1109.  
—, copper salts action on, 1137.  
—, corn cob, cellulose acetate from, 630.  
—, —, cellulose formate from, 630.  
—, —, esterifying, 630.  
—, crystallite magnitude of, 1105.  
—, cuprammonium, regenerated, alkali absorbed by, 1144.  
—, *cuticular*, see *Cutin*.  
—, cyanacetyl chloride for, etherifying, 273.  
—, degradation of, 591, 910.  
—, dehydrating, 426.  
—, dehydration prior to acetation, 428.  
—, depolymerization of, 72, 78, 379, 1144, 1307.  
—, dextrose from, 25.  
—, diphenylethylene oxide compound with, 64.  
—, dispersion of, 280, 1412.  
—, dissolving, thiocyanate for, 473.  
—, distillation, 1107.  
—, dyeing, 5.  
—, esparto, 1180.  
—, *esterification*, see *Cellulose, acetation; Cellulose, nitration*.

- Cellulose, esterifying, 680, 686.  
 —, —, superficial, 894.  
 —, —, toluene in, 722.  
 —, —, uniformity of, 713.  
 —, —, vacuum, 725.  
 —, —, xylene in, 722.  
 —, ether-ester of, mfr., 284.  
 —, etherification of, 12, 239, 278, 297, 1453.  
 —, —, superficial, 1414.  
 —, —, temperature reduction in, 59.  
 —, —, typical reaction, 38.  
 —, —, water ratio in, 59.  
 —, etherified, esterification of, 1651.  
 —, ethers of, 82.  
 —, —, mfr., 280.  
 —, —, *see also Benzylcellulose; Ethylcellulose; Methylcellulose.*  
 —, ethylating, 150, 170, 289, 293.  
 —, —, potassium chloride in, 258.  
 —, —, sodium chloride in, 258.  
 —, ethylation, *see Cellulose, alkylation.*  
 —, ethyl chloride for etherification of, 100.  
 —, ethylene glycol treatment of, 160.  
 —, ethylene imide compound with, 64.  
 —, ethylene oxide ethers of, 64.  
 —, ethylene sulfide compound with, 64.  
 —, fat in, determination of, 2648.  
 —, fiber diffraction pattern, 1122.  
 —, fluorescent power of, 558.  
 —, fluorsulfonic acid action on, 1066.  
 —, formaldehyde action on, 1618.  
 —, formal of, 1619.  
 —, formula of, 1112.  
 —, formylation of, 695, 969.  
 —, —, vacuum for, 371.  
 —, —, *see also Cellulose, formylating.*  
 —, formylized, *see Cellulose formate.*  
 —, fumacylglycidic acid compound with, 64.  
 —, glycidic acid compound with, 64.  
 —, glycol ethers of, acetylated, 65.  
 —, —, etherified, 65.  
 —, —, mfr., 65.  
 —, —, nitrated, 65.  
 —, handkerchief made with cellulose acetate and, 695.  
 —, heat on, 1131.  
 —, heat of combustion, 1107, 1158.  
 Cellulose, hydrated, 1414.  
 —, —, etherifying, 47.  
 —, —, mfr., 477, 811.  
 —, —, waterproofing, 139.  
 —, hydrocellulose, alkali-soluble, alkali absorbed by, 1144.  
 —, hydrochloric acid action on, 1135, 1136.  
 —, hydrochloric acid for carbonizing, 951.  
 —, hydrogen dioxide oxidized, alkali absorbed by, 1144.  
 —, hydrolysis of, 25, 357, 426.  
 —, hydroxy alkyl ether of, 1396.  
 —, identification, 1102.  
 —, immunized, 642.  
 —, —, dyeing, 642.  
 —, —, mfr., 725.  
 —, immunizing, 941, 1009, 2313.  
 —, inflammability of, reducing, 158.  
 —, insulating made using, 725.  
 —, intercrystallite, 660.  
 —, iron salts action on, 1137.  
 —, lead salts action on, 1137.  
 —, lignin in, 1109.  
 —, mfr., 621.  
 —, mercerized, X-ray analysis of, 1179.  
 —, —, X-ray structure, 1202, 1204.  
 —, mercerizing, 690, 1236.  
 —, —, high pressure, 1193.  
 —, methylated, alkali absorption of, 167.  
 —, methylating, 150, 293.  
 —, methylation of, 25, 33, 73, 95, 149, 170.  
 —, —, maximum, 34, 1308, 1309.  
 —, —, *see also Cellulose, alkylation.*  
 —, methyl chloride for etherification of, 100.  
 —, methylphenylethylene oxide compound with, 64.  
 —, micelle chemistry of, 1118.  
 —, micelle magnitude of, 1106.  
 —, modified, *see Hydrocellulose; Oxy-cellulose.*  
 —, moisture in, determination of, 2647.  
 —, molding, 562.  
 —, molecular magnitude, 1105.  
 —, molecular shape of, 159.  
 —, molecular size of, 1118.  
 —, molecule, size of, 1112.  
 —, monochlorhydrin treatment of, 160.  
 —, monomethyl, compound of, 95.  
 —, nitrating, superficially, 393.

- Cellulose, nitration of, 410, 411, 490.
- , nitrogen tetroxide action on, 654.
  - , nitrogen trioxide action on, 654.
  - , normal, 1104.
  - , —, etherification of, 27.
  - , optical activity, 1102.
  - , oxalic acid action on, 1134.
  - , oxidized, 1146.
  - , —, *see also Oxycellulose*.
  - , oxidizing, 1138.
  - , oxyether of, mfr., 289.
  - , panel made using, 725.
  - , *paper, nitrated, see Paper, nitration*.
  - , particle size, 1124.
  - , pentosan content of, 1109.
  - , pentosan-free, mfr., 1152.
  - , peptized, 1142.
  - , perchlorates action on, 1140.
  - , permanganate action on, 1140.
  - , permanganate number of, 1109.
  - , persulfates action on, 1140.
  - , phenylisocyanate derivative of, 41.
  - , physical properties, 1107.
  - , piperazine in etherifying, 255.
  - , polarization, 1125.
  - , potassium bichromate action on, 1140.
  - , potassium ferrocyanide action on, 1140.
  - , powdered, mfr., 697.
  - , pretreating, 95, 204, 259, 289, 409, 428, 467, 476, 573, 593, 598, 633, 644, 650, 655, 656, 658, 666, 683, 721, 741, 773, 821, 847, 850, 851, 857, 860, 861, 876, 901, 905, 907, 928, 941, 943, 953, 968, 979, 987, 1003, 1006, 1014, 1050.
  - , —, acetic acid for, 471, 958.
  - , —, formic acid for, 958.
  - , —, sulfur dioxide, liquid for, 915.
  - , —, zinc chloride for, 471.
  - , pre-treating for acetation, 585.
  - , *iso*-propyl chloride for etherification of, 100.
  - , *n*-propyl chloride for etherification of, 100.
  - , propylene oxide compound with, 64.
  - , purification, 1405.
  - , pyridine, action on, 848.
  - , ramie, structure of, 130.
  - , reactivity of, increasing, 259.
  - , regenerated, 225.
- Cellulose, regenerated, esterifying, 299.
- , —, fabric of cellulose ether and, 2379.
  - , solubility, 1196.
  - , —, waterproofing, cellulose ether for, 2412.
  - , reserve, 1162.
  - , resin in, 1109.
  - , —, determination of, 2648.
  - , rigidity, permanent, of, 1042.
  - , Roentgen-spectrograph of, 71.
  - , rubber combined with, 538.
  - , saccharifying, 1039.
  - , salts action on, 1136.
  - , sodium bisulfate for carbonizing, 951.
  - , sodium chloride, action on, 1137.
  - , sodium dioxide action on, 894.
  - , *soluble, see Cellulose nitrate*.
  - , spectra, 1107.
  - , stability, 1132.
  - , standard, mfr., 1148, 1150.
  - , steeping, 1236.
  - , straw, ash in, 1109.
  - , —, pentosan in, 1109.
  - , structure of, 1118, 1119, 1124, 1125.
  - , sulfate, ash in, 1109.
  - , —, pentosan in, 1109.
  - , sulfite, ash in, 1109.
  - , —, pentosan in, 1109.
  - , —, *see also Sulfite cellulose*.
  - , sulfolysis of, 357.
  - , sulfonated, mfr., 123.
  - , sulfonating, 1685.
  - , sulfuric acid as solvent of, 692.
  - , sulfuric acid derivative of, mfr., 728.
  - , sulfur trioxide treatment of, 728.
  - , swelling of, 847.
  - , —, minimizing, 668.
  - , swelling by alkali, 1219.
  - , synthesis, 544.
  - , tablecloth made with cellulose acetate and, 695.
  - , thiocyanates action on, 587.
  - , —, thiocyanates as solvent of, 523, 1136.
  - , titanium salts action on, 1137.
  - , towel made with cellulose acetate and, 695.
  - , treatment prior to esterification, 378.
  - , treatment prior to etherification, 1405.

- Cellulose, trimethylene oxide compound with, 64.  
—, trioxymethylene compared with, 467.  
—, triphenylcarbinol ether of, 70.  
—, triphenylmethyl ether of, 71.  
—, viscosity of, 1041, 1118, 1135.  
—, voluminous, mfr., 1412.  
—, water absorption, 1108.  
—, wax in, determination of, 2648.  
—, wetting agents for, 1235.  
—, *xanthates* of, *see Viscose*.  
—, X-ray analysis, 1116, 1118.  
—, X-ray diagram of, 1371.  
—, X-ray investigations, 1106.  
—, X-ray structure of, 1120.  
—, *see also Cotton, Lignin, Paper, Wood*.  
Cellulose-A, 116, 709, 1145, 1313, 1334, 1737.  
—, methylation of, 77, 1307.  
—, methylcellulose from, 77.  
*a*-Cellulose, acetylation, 2622.  
—, alkylating, 2641.  
—, cellulose ether strengthened by, 254.  
—, determination of, 2648.  
—, glucose, residues in, 37.  
—, mfr., 503, 1050.  
—, methylation of, 2622.  
—, water absorption, 1108.  
*b*-Cellulose, swelling properties, 827.  
*iso*-Cellulose, 116.  
*b*-(oxy) Cellulose, 1244.  
*v*-Cellulose, swelling properties, 827.  
Cellulose abietate, lacquer containing, 2423.  
Cellulose acetate, 312, 1666, 1668, 1689, 1696, 1749, 1865, 2390.  
—, abrasive containing, 940.  
—, absorption of, increasing, 615.  
—, acetating, catalyst for, 440.  
—, acetic acid in, determining, 807, 925.  
—, —, recovery, 644, 713.  
—, acetic acid in mfr., recovery, 633.  
—, acetic acid solvent of, 480.  
—, acetic acid with as plastic, 407.  
—, acetodichlorhydrin solvent for, 406.  
—, acetolysis of, 405.  
—, acetone, solubility, 1345.  
—, acetone-insoluble, solubilizing, 446, 465, 466.  
Cellulose acetate, acetone-soluble, 477.  
—, acetone solution, viscosity of, 963.  
—, acetone solvent for, 1879.  
—, acetylating, vapor phase, 568.  
—, acetyl content, determination, 847, 870.  
—, acetyldicyclohexylamine plasticizer for, 408.  
—, acetylene tetrachloride solvent for, 407, 421.  
—, acetylsulfuric acid catalyst in mfr. of, 427.  
—, adsorption isotherm of, 827.  
—, aggregation state, 704.  
—, airplane dope containing, 442.  
—, airplane fabric coated, using, 485.  
—, airplane lacquer made using, 520.  
—, airplane wing visibility reduced by, 424.  
—, alcohol, solid, made using, 2480.  
—, —, solubility, 1345.  
—, alcohol-insoluble, mfr., 451.  
—, alcohol solidified using, 486.  
—, alcohol-soluble, mfr., 383.  
—, alcohol vapor sorption by, 1067.  
—, algin with, as lacquer, 571.  
—, alginic acid with, as lacquer, 571.  
—, alkylamine for hydrolyzing, 421.  
—, aluminum alginate with, as lacquer, 571.  
—, aluminum fluoride for reducing inflammability of, 92.  
—, aluminum hydroxide with, as plastic, 353.  
—, aluminum phosphate for reducing inflammability of, 92.  
—, amines solvent for, 2009.  
—, aminoazobenzene in dyeing, 649.  
—, ammonia, anhydrous, as solvent for, 566.  
—, —, liquid, solvent for, 620.  
—, ammonia for hydrolyzing, 421.  
—, ammonium chloride catalyst in mfr. of, 412.  
—, amorphous, 543.  
—, amylacetate as non-solvent for, 479.  
—, amyl acetate plastic with, 442.  
—, analysis of, 326, 763, 870, 888, 889, 996, 1002.  
—, analysis, microscopic, using, 443.

- Cellulose acetate, aniline for hydro-  
lyzing, 421.  
—, aniline black dyed, 904.  
—, anisole as solvent for, 812.  
—, antacid for, 867.  
—, dimethylphenyltolylurea as,  
628.  
—, antimony trichloride for reduc-  
ing inflammability, 1055.  
—, applications, 518, 551, 629.  
—, ash content, 804.  
—, auramine dyeing, 665.  
—, aviation fabric containing, 430.  
—, balata and for waterproofing,  
431.  
—, balata plastic of, with, 87.  
—, belt, driving, made with, 480.  
—, benzene, solubility, 1345.  
—, benzene as solvent for, 1802.  
—, benzine, solubility, 1345.  
—, benzoic acid dyeing, 665.  
—, benzyl acetate solvent for, 1928.  
—, benzyl alcohol as solvent for,  
812, 1042.  
—, benzyl benzoate solvent for, 406.  
—, benzylcellulose combined with,  
48, 1582.  
—, bleaching, 538, 599, 645, 652,  
656, 657, 678, 684, 859, 899, 954,  
1014.  
—, blood with, as plastic, 353.  
—, board made using, 725.  
—, board, insulation, electric, made  
using, 2445.  
—, boiling, resistance to, 960.  
—, stability to, 882.  
—, borneol plastifier for, 352.  
—, breakdown strength of, 485.  
—, 4-brom-2-nitro-diphenylamine  
for dyeing, 750.  
—, 4-brom-2'-nitro-diphenylamine  
for dyeing, 750.  
—, 4-brom-2-nitro-4'-methoxy-  
diphenylamine for dyeing, 750.  
—, bromphenyl acetate for reduc-  
ing inflammability, 1055.  
—, bromtoluene for reducing in-  
flammability, 1055.  
—, brush lacquer containing, 464.  
—, building material made using,  
485.  
—, butyl acetoacetate with, as plas-  
tic, 48.  
—, cable insulated using, 855.  
—, calcium citrate for reducing in-  
flammability of, 92.  
Cellulose acetate, calcium phos-  
phate for reducing inflammabil-  
ity of, 92.  
—, calcium sulfate for reducing in-  
flammability of, 92.  
—, calcium tartrate for reducing  
inflammability of, 92.  
—, calcium thiocyanate treated,  
2315.  
—, calendering, 814.  
—, camphor, plastic of with, 87.  
—, camphor and as plastic, 367.  
—, camphor solvent for, 407.  
—, canvas impregnated by, 414.  
—, caoutchouc and for waterproof-  
ing, 431.  
—, caoutchouc combined with, 394.  
—, carbon filament of, 329.  
—, carbonizing, 329, 743, 767, 955,  
956.  
—, cardboard waterproofed by, 449.  
—, cartridge, shotgun, water-  
proofed by, 2157.  
—, casein and, 573.  
—, caterpillar entangled with, 711.  
—, Celloda Syndicate plant, 1042.  
—, celluloid substitute made con-  
taining, 468.  
—, cellulose ether for thickening  
paste of, 172.  
—, cellulose ether ink containing,  
2474.  
—, cellulose ethers combined with,  
22.  
—, cellulose nitrate combined with,  
788.  
—, cellulose nitrate film coated  
with, 706.  
—, cellulose nitrate for increasing  
strength of, 445.  
—, cellulose nitrate separated from,  
1065.  
—, cellulose regenerated from,  
1144.  
—, cellulose sulfate in, removal,  
950, 956.  
—, cellulose xanthate and, 791.  
—, cellulose xanthate from, 588.  
—, cement of, 473.  
—, characteristics, 797.  
—, chemistry of, 694.  
—, chloroform for purifying, 929.  
—, chloroform-insoluble, mfr., 451.  
—, chloroform-soluble, 477.  
—, —, hydrolysis of, 447.  
—, —, plastic of, 464.



- Cellulose acetate, chloroform solvent for, 1813.
- , 4-chlor-2-nitro-4-acetamidodiphenylamine for dyeing, 750.
  - , 4-chlor-2'-nitro-diphenylamine for dyeing, 750.
  - , 4-chlor-2-nitro-4'-ethoxydiphenylamine for dyeing, 750.
  - , 4-chlor-2-nitro-3'-methyl-diphenylamine for dyeing, 750.
  - , cigarette tip made using, 809.
  - , clarifying, 557, 949, 991.
  - , —, hydrochloric acid for, 882.
  - , clarity of increasing, 953, 1030.
  - , cleaning, 425.
  - , cloth, tracing, made using, 706.
  - , cloth coated with, 141.
  - , cloth fireproofed with, 441.
  - , coagulating, 447, 860, 868, 959, 1032, 1033.
  - , coating, cellulose ether for, 141.
  - , coating composition containing, 530.
  - , coating compounds containing, 1007.
  - , cockled effect on producing, 935.
  - , colloidal nature of, 405, 514.
  - , compacting, 869.
  - , concrete, foam for, containing, 1002.
  - , condensers, electrical, made using, 803.
  - , conductor, wire, fireproofed using, 732.
  - , constitution of, 694.
  - , copper (ic) chloride catalyst in mfr. of, 412.
  - , copper sulfate catalyst in mfr. of, 414.
  - , cotton pulp for mfr. of, 989.
  - , coumarone polymerized with, 589.
  - , creasability, 873.
  - , creosote with as plastic, 407.
  - , crepe effect on, 701, 907, 934.
  - , —, producing, 935.
  - , cross-dyeing, 691, 694, 1023, 2313.
  - , cryoscopic behavior of, 657, 659, 660.
  - , crystalline, 544, 657, 700, 728.
  - , crystalline structure of, 657.
  - , crystallizable, 1315.
  - , cutting, 502.
  - , cyclohexanol acetate solvent, 408.
  - Cellulose acetate, cyclohexanol formate solvent, 408.
  - , cyclohexanone and, as lacquer, 584.
  - , cyclohexanone solvent for, 1042.
  - , cyclopentanol ester solvent, 408.
  - , damask effect on, 2340.
  - , deacetylation, 856.
  - , "de-association," 711.
  - , decomposition of, 595.
  - , —, gases in, 897.
  - , decolorizing, 311, 335.
  - , decorating, 720.
  - , decorative leaf made using, 457.
  - , de-esterifying, 796, 797.
  - , degradation, 1129.
  - , degradation product of, 1054.
  - , degreasing, 684.
  - , delivery of solutions of, 1012.
  - , delustred, relustring, 135, 600, 943.
  - , delustring, 600, 609, 616, 635, 721, 722, 727, 738, 743, 747, 749, 767, 774, 776, 828, 854, 859, 895, 927, 932, 937, 946, 950, 962, 999, 1013, 1020, 1022, 1030, 1084, 2191.
  - , —, resistance to, 950.
  - , —, improving, 1013.
  - , density of solutions of, 495.
  - , depolymerizing, 704.
  - , designs on, 1005.
  - , desizing, 678, 684, 933, 1041.
  - , desorption isotherm of, 827.
  - , development, 757.
  - , diacetone alcohol solvent for, 1042.
  - , dialyzing, 438, 855.
  - , 1,4-diaminoanthraquinone in dyeing, 649.
  - , dianisidine in dyeing, 649.
  - , dibutyl phthalate as solvent for, 124.
  - , dichloronaphthalene for reducing inflammability, 1055.
  - , dicyclohexylsulfonamide plasticizer for, 408.
  - , dielectric polarization, 1052.
  - , diethylamine sulfate catalyst in mfr. of, 413.
  - , diffusion, 855.
  - , diffusion rate of, 1052.
  - , dioxane in hydrolysis of, 1877.
  - , dioxane solvent for, 124, 1876.
  - , dioxydiphenyldimethylmethane plastic with, 416.
  - , diphenylglyceryl ether solvent, 408.

- Cellulose acetate, discharge effects on, 613, 745.
- , discharge printing on, 961.
- , discharges on, 717, 2319.
- , discharging colors on, 692.
- , dispersed colors for, 936.
- , dispersion of, 280, 561, 697, 1016.
- , dispersive agent, 853.
- , double refraction, 892.
- , dry, hydrating, 355.
- , dry cleaning, 737, 1041.
- , drying, 720.
- , Du Pont, 1033.
- , dyed, color extraction from, 1023.
- , —, decolorizing, 826, 2319.
- , —, discharging, 868.
- , —, removal color from, 825.
- , dyeing, 86, 227, 265, 351, 389, 413, 499, 500, 504, 505, 529, 530, 531, 567, 568, 570, 577, 578, 592, 596, 597, 599, 600, 601, 605, 609, 615, 628, 638, 646, 649, 650, 651, 652, 656, 671, 678, 681, 684, 685, 687, 694, 699, 703, 704, 706, 714, 723, 726, 730, 742, 744, 749, 750, 755, 761, 763, 776, 779, 787, 797, 798, 800, 802, 808, 809, 814, 819, 820, 825, 831, 837, 843, 846, 849, 853, 857, 858, 861, 868, 873, 879, 880, 881, 899, 900, 902, 917, 925, 927, 934, 936, 943, 945, 953, 964, 966, 975, 991, 998, 1009, 1023, 1024, 1025, 1033, 1041, 1082, 1100.
- , —, capsule for, 964.
- , —, differential, 810, 1032.
- , —, difficulties in, 679.
- , —, fastness improved, 607.
- , —, fluorescent, 886.
- , —, mottled effect, 880.
- , —, sodium chloride and sodium hydroxide in preparing, 569.
- , —, speed of, 565.
- , —, sulfate colors for, 611.
- , —, sulfide colors for, 611.
- , —, theory, 679.
- , dyeing cotton and, 676.
- , dyeing properties, 873.
- , dyeing textiles of, 2243.
- , dyeing wool and, 676, 695.
- , dyestuff affinity, augmenting, 993.
- , Eastman plant, 1040.
- , effects, woolly, producing on, 2331.
- , electric charge of, reducing, 922.
- Cellulose acetate, electric conductor made using, 2439.
- , electric lamp filament of, 329.
- , electrification of, remedying, 464.
- , electrodeposition of, 128.
- , embossing, 815.
- , emollient for, 880.
- , emulsifying, methylcellulose for, 2454.
- , ether solubility, 1345.
- , etherifying, 1434.
- , ethyl acetate solvent for, 1042, 1345.
- , ethyl acetoacetate with, as plastic, 48.
- , ethyl acetoglycollate solvent for, 1042.
- , ethyl benzoate as solvent of, 889, 890.
- , ethyleneacetochlorhydrin solvent for, 406.
- , ethylchlorhydrin solvent for, 406.
- , ethylenechloride solvent for, 406.
- , ethylenediamine for hydrolyzing, 421.
- , ethyl-*p*-toluenesulfonamide solvent for, 407.
- , explosive containing, 330, 395.
- , extensibility, modifying, 818.
- , fabric, balloon, coated with, 2482.
- , —, made using, 891.
- , —, cleaning, 1072.
- , —, creasing, preventing, 1001.
- , —, dirigible, coated with, 2482.
- , —, dyeing, 637, 1089.
- , —, finishing, 1089.
- , —, fireproof, made with, 432.
- , —, laundering, 737.
- , —, pile, containing, 951, 952.
- , —, printing, 637, 2328.
- , —, stencilling, 637.
- , —, washable, made with, 432.
- , —, waterproof, made using, 713.
- , fabric coated using, 491, 741, 2483, 2485.
- , fabric from, 338.
- , fabric waterproofed by, 482.
- , faille, dyeing, 1001.
- , fibrous, hydrolyzing, 420.
- , —, mfr., 339, 345, 350, 362, 363, 396, 400, 412, 443, 471, 472, 496, 558, 619, 631, 634, 658, 668, 713, 887, 949, 958, 1014.

- Cellulose acetate, fibrous, wood pulp for, 565.  
—, filament of, 808.  
—, filament, artificial, made using, 820, 1001.  
—, —, delustring, 849.  
—, —, dyeing, 1089.  
—, —, finishing, 1089.  
—, —, properties, 641.  
—, filaments from, 2071.  
—, filaments of cellulose xanthate with, 791.  
—, film of, 103, 368, 531, 808, 886, 2502, 2503, 2505, 2506, 2507, 2508, 2513.  
—, film, colored, made using, 2531, 2532.  
—, —, light-sensitive, made using, 630.  
—, —, mfr. of, 225, 338, 430, 443, 866, 2526.  
—, —, non-static, made using, 703.  
—, —, photographic, of, 92, 912.  
—, —, thickness of, 159.  
—, —, thin, mfr. of, 223.  
—, —, —, properties, 805.  
—, —, X-ray, inflammability, 545.  
—, film cement containing, 430.  
—, film curling prevented by, 532.  
—, film enamelled with, 377.  
—, film identified by using, 669.  
—, filtering, 991.  
—, finishing, 945.  
—, finish remover made using, 435.  
—, fireproofing, 491, 528, 566, 863.  
—, fixing on, 672.  
—, flexible, mfr., 525.  
—, flexibility, amyl ester for producing, 474.  
—, —, cinnamic acid for producing, 474.  
—, —, cinnamic ester for producing, 474.  
—, floor covering containing, 966.  
—, fluorescence, 891, 994.  
—, fluorescent, film, 1372.  
—, fluorescent power of, 558.  
—, foam-like mass of, mfr., 431.  
—, foil made with, 898, 946, 999.  
—, formic-acid-solvent of, 480, 1891.  
—, fractions of, constants, 1034.  
—, freezing point of, 875.  
—, fusing, 1069, 2165.  
—, fusing point, 874.  
—, gas bag rendered impermeable by, 513.  
Cellulose acetate, gauze coated with, 741.  
—, gelatin with as plastic, 407, 423.  
—, gelatinizer for, 880.  
—, gelatinizing process for, 427.  
—, gelling, 1016.  
—, gels of, structure of, 1067.  
—, glass, laminated, made using, 294, 480, 680, 820, 833, 2587, 2588, 2595.  
—, glossing, 937.  
—, glycerol with as plastic, 564.  
—, glycerol cresolate solvent, 408.  
—, glycerol ether oxide solvent, 408.  
—, glycerol phenolate solvent, 408.  
—, granular, mfr., 456.  
—, gun-cartridge waterproofed by, 449.  
—, gunpowder coated with, 158.  
—, gun stock made using, 588.  
—, halogenated, mfr., 783.  
—, hardening, 695.  
—, haze in, preventing, 988, 993.  
—, —, removing, 1056.  
—, heat resistance to, 850.  
—, —, increasing, 2162.  
—, hexahydrophenols solvent, 408.  
—, hexalin as solvent for, 539.  
—, hexalin with, as lacquer, 519.  
—, hexamethyltetramine stabilizer for, 353.  
—, hollow bodies from, mfr., 433.  
—, hollow filament made using, 829.  
—, homogenizing, 1013.  
—, horn, artificial, made using, 2607, 2608.  
—, horse hair, artificial, mfr., 353.  
—, hydrated, damask effect by, 2340.  
—, —, mfr., 483.  
—, hydrating, nitric acid for, 377.  
—, hydration of, 347, 348, 380, 393, 400, 464, 478, 566, 588, 597, 843, 917, 924.  
—, —, sodium ethylsulfate for, 400.  
—, hydrazine for hydrolyzing, 421.  
—, hydrazine sulfate catalyst in mfr. of, 414.  
—, hydrochloric acid, treated, 2315.  
—, hydrogenation products of, stencil sheet mfr. using, 519.  
—, hydrolysis of, 405, 411, 553, 554, 599, 603, 614, 659, 696, 743, 744, 749, 775, 806, 816, 838, 865, 873, 874, 901, 926, 927, 944, 945, 947, 949, 969, 972, 988, 993, 1037.  
—, —, nitric acid for, 409.

- Cellulose acetate, hydrolysis of,  
rate of, 708.  
—, hydrolyzing, 1033, 1060.  
—, —, apparatus for, 917.  
—, hydroxylamine sulfate catalyst  
in mfr. of, 414.  
—, hygroscopicity, 1552.  
—, identification of, 694, 730.  
—, identifying, tinting fluid for,  
1001.  
—, ignition temperature, 895.  
—, impregnating media containing,  
532.  
—, indene polymerized with, 589.  
—, India rubber made using, 368.  
—, India rubber with as plastic,  
423.  
—, indophenol in dyeing, 649.  
—, inflammability, 641.  
—, —, corn starch for reducing,  
540.  
—, —, reducing, 506, 550, 558, 721,  
743, 752, 1017, 1374.  
—, inflammability of cellulose re-  
duced by, 549.  
—, ink for, 943, 944.  
—, ink for printing on, 982, 995.  
—, insect entangled with, 711.  
—, insulating made using, 725, 825,  
923, 950.  
—, insulator of, 1027.  
—, iodobenzene solvent of, 1826.  
—, iridizing, 884.  
—, iron(ic) chloride, treatment of,  
617.  
—, iron (ic) chloride catalyst in  
mfr. of, 412.  
—, ironing, 172, 874, 933, 1001.  
—, —, reducing temperature of,  
1099.  
—, —, resistance to, increasing, 750.  
—, ironing-point, 955.  
—, iron-proofing, 859, 2166.  
—, irradiation of, 915.  
—, isoborneol plastifier for, 352.  
—, isoprene polymers as plasticizer  
for, 429.  
—, jelly of, elasticity, 703.  
—, —, structure, 703.  
—, jelly strength of, 844.  
—, jointing material made using,  
2439.  
—, lacquer containing, 429, 489,  
541, 583, 645, 648, 723, 727, 740,  
741, 1025, 1035, 2391, 2392.  
—, lacquer, fireproof, containing,  
520.  
Cellulose acetate, lacquering, 884.  
—, lacquer of, bottle capping of,  
1024.  
—, lacquer of linseed oil and, 450.  
—, latex combined with, 2542.  
—, lattice changes in, 660, 800.  
—, lattice forms, 660.  
—, laundering, 874.  
—, lead plate lacquered with, 343.  
—, leather, artificial, made using,  
468, 779.  
—, leather coated with, 385, 699.  
—, leather dressing made using,  
868.  
—, light dispersion in, 963.  
—, light scattering by, 561.  
—, light-transforming composition  
containing, 461.  
—, lignoproteins plasticizer, 472.  
—, linen coated with, 383.  
—, linen waterproofed by, 393.  
—, loading, 623.  
—, low viscosity, mfr., 850, 1058,  
1060.  
—, lubricant, mfr., 1068.  
—, lubricating, 722, 744, 954, 1018,  
1023.  
—, luster, 873.  
—, —, increasing, 784.  
—, —, modifying, 609, 937, 1008.  
—, —, preserving, 632, 714, 934,  
1001.  
—, —, preventing increase of, 602.  
—, —, restoring, 722.  
—, magnesium chloride for hydrolyz-  
ing, 421.  
—, magnesium dihydrogen-o-an-  
timonate for reducing inflamma-  
bility of, 92.  
—, Malachite green dyeing, 665.  
—, mfr. of, 204, 495, 498, 515, 516,  
522, 537, 543, 551, 552, 555, 585,  
586, 589, 590, 597, 598, 614, 621,  
629, 630, 635, 638, 642, 646, 650,  
652, 666, 667, 669, 670, 688, 693,  
694, 700, 705, 712, 724, 725, 728,  
731, 755, 757, 759, 764, 766, 771,  
773, 795, 804, 805, 806, 810, 811,  
812, 817, 821, 822, 825, 826, 831,  
838, 841, 850, 851, 859, 860, 865,  
877, 882, 886, 887, 889, 890, 901,  
918, 921, 928, 941, 942, 948, 949,  
958, 1003, 1009, 1011, 1018, 1020,  
1024, 1026, 1044, 1055, 1058, 1615,  
2500.  
—, —, acetic acid recovery, 713, 729,  
730, 795, 1008.

- Cellulose acetate, mfr. of, apparatus for, 516, 761, 922, 953.  
—, —, Australia, 514.  
—, —, catalyst for, 480, 483, 688.  
—, —, continuous, 669, 719, 779, 868, 1057.  
—, —, high viscosity, 778, 797.  
—, —, matt surface, 699.  
—, —, nitric acid in, 490.  
—, —, nitrobenzene in, 490.  
—, —, in powder form, 713.  
—, —, in Russia, 1000.  
—, —, temperature of, controlling, 763.  
—, —, vacuum process for, 796.  
—, —, waste acid from, recovery, 772.  
—, —, water content of during, 922.  
—, Martius yellow, dyeing, 665.  
—, matt effect on, 908.  
—, melting, 1090.  
—, melting point, 813, 984.  
—, melting point, raising, 762.  
—, mercerizing, 616, 690.  
—, —, textiles containing, 828.  
—, metal foil coated with, 424.  
—, metallized, mfr., 1020.  
—, metallizing, 815, 816.  
—, methyl acetate as solvent of, 485.  
—, methyl acetoacetate with, as plastic, 48.  
—, methyl alcohol as solvent of, 485.  
—, methyl alcohol in mfr., 1829.  
—, methyl alcohol plastic with, 442.  
—, methyl benzoate as solvent of, 889, 890.  
—, methylamine bisulfate catalyst in mfr. of, 413.  
—, methylating, 279, 1323.  
—, methylbenzyl solvent for, 1042.  
—, methylcellulose for emulsifying, 2454.  
—, methylcellulose solubility decreased by, 2454.  
—, methyl chloracetate solvent for, 407.  
—, methylcyclohexanone as solvent for, 124.  
—, *b*-methylcyclopentanol acetate solvent, 408.  
—, methylethyl acetoacetate with, as plastic, 48.  
—, methyl formate solvent for, 396.  
—, methylglycol acetate as solvent for, 124.  
Cellulose acetate, methyl phthalate solvent for, 1042.  
—, micelle size, 704.  
—, microscopic examination, 848.  
—, micro-structure of, 677.  
—, mixed fabric containing, dyeing, 689, 690.  
—, mixing, apparatus for, 845.  
—, moire effect on, 767.  
—, moisture adsorption, 1095.  
—, moisture regain, 874.  
—, molded, mfr., 506.  
—, molding, 455, 456, 535, 677, 690, 1005, 1008.  
—, molding material containing, 614.  
—, molecular condition, determining, 923.  
—, molecular polarization of solutions of, 823.  
—, molecular wt. curves, 1052.  
—, monoidobenzene solvent of, 1826.  
—, mordanting, 756, 852, 867.  
—, mother-of-pearl made using, 427, 999.  
—, mounting, 898.  
—, mouthpiece, cigarette, foil for, made using, 732.  
—, naphthalene plastic of, with, 87.  
—, naphthalenesulfonic acid in dyeing, 649.  
—, naphthylisocyanate for modifying properties of, 831.  
—, netting coated with, 741.  
—, neutralizing, 576, 1019.  
—, ninon, dyeing, 1001.  
—, nitrating, 353, 888.  
—, —, superficial, 1014.  
—, nitric acid treated, 2315.  
—, 2-nitro-4'-acetamido-diphenylamine for dyeing, 750.  
—, nitrobenzene solvent, 1780.  
—, 2-nitro-diphenylamine for dyeing, 750.  
—, 2-nitro-4'-ethoxy-4-methyl-diphenylamine, for dyeing, 750.  
—, nitromethane dissolved by, 264.  
—, 2-nitro-4-methyl-diphenylamine for dyeing, 750.  
—, nitrophenyl isocyanate for modifying properties of, 831.  
—, non-conducting, mfr., 1020.  
—, oil-cloth, imitation, made using, 368.  
—, oleates, plastic of, with, 87.  
—, opacity, determining, 883.  
—, optical activity, 660.

- Cellulose acetate, organosols, mfr., 846.  
 —, orientation of, 837.  
 —, osmotic pressure, 1052, 1053.  
 —, osmotic pressure measurements, 855.  
 —, 2-oxyisonaphthalic acid dyeing, 665.  
 —, packing made using, 487.  
 —, paint containing, 825, 2544.  
 —, paint remover made using, 435, 992.  
 —, panel made using, 725.  
 —, paper, fireproof, made with, 432.  
 —, —, washable, made with, 432.  
 —, paper coated using, 491.  
 —, paraffin homogenized with, 946.  
 —, paraffin, plastic of, with, 87.  
 —, particle-size, 888.  
 —, patent leather made using, 368.  
 —, pattern, luster, 1084.  
 —, pattern effects on, 727, 728.  
 —, pearl essence made using, 2619, 2620.  
 —, pebble effect on, producing, 935.  
 —, pencil ornamented using, 843.  
 —, pentachlorethane solvent for, 406, 1818.  
 —, pentachlorethane with as plastic, 407.  
 —, peptisation of, 614, 860, 868.  
 —, peptized, viscosity of, 841.  
 —, percentage elongation, 1566.  
 —, permanent rigidity, 1053.  
 —, phenol-formaldehyde plastic with, 440.  
 —, phenyl glycidic solvent, 408.  
 —, phenylisocyanate for modifying dyeing properties of, 831.  
 —, phonograph record containing, 364.  
 —, phosphoric acid treated, 2315.  
 —, photo-emulsion containing, 356.  
 —, photographic film containing, 370.  
 —, photomicrographs, 797.  
 —, physics of, 694.  
 —, pine wood for mfr., 647.  
 —, piperidine for hydrolyzing, 421.  
 —, plaited effect on, producing, 270.  
 —, plastic made with, 292, 370, 446, 475, 478, 520, 549, 997, 2559, 2560, 2563, 2565, 2569, 2576.  
 —, plastic, cutting, 502.  
 —, —, properties, 689, 713.  
 —, —, seasoning, 520.  
 —, —, unflammable, mfr., 400.  
 Cellulose acetate, plastic, uses, 463.  
 —, plastic of, carbon bisulfide with, 440.  
 —, —, phenol aldehyde with, 464.  
 —, plasticizer, 367, 835, 910, 1791.  
 —, plasticizing, 1038.  
 —, plastifier, effect of, 984.  
 —, plate, acoustic, made using, 703.  
 —, —, printing, made using, 648.  
 —, polarity of, 732.  
 —, polarization, 800, 1052.  
 —, polish, shoe, made using, 689.  
 —, polish for, mfr., 2395.  
 —, polishing, 439.  
 —, porosity, increasing, 1007.  
 —, porous, mfr., 431, 638.  
 —, —, sodium sulfate for mfr., 497.  
 —, powdered, mfr., 697, 713, 910.  
 —, —, using, 861.  
 —, power factor of, 485.  
 —, precipitating, 396, 784, 860, 916, 959, 987, 988, 1007, 1018, 1022, 1025, 1034, 2084.  
 —, —, animal oil for, 516.  
 —, —, apparatus for, 644.  
 —, —, castor oil for, 516, 627.  
 —, —, cod-liver oil for, 627.  
 —, —, ethyl ether for, 385.  
 —, —, linseed oil for, 516, 627.  
 —, —, vegetable oil for, 516.  
 —, precipitation, fractional, 813, 896, 929, 984, 1051, 1067.  
 —, "precipitation value," 1037, 2502.  
 —, pressed compounds of, mfr., 383.  
 —, pressure, osmotic, 1053.  
 —, printing on, 140, 600, 605, 608, 638, 656, 671, 672, 692, 716, 779, 845, 861, 885, 917, 998, 1027, 2316.  
 —, printing, indigosols for, 805.  
 —, properties, 311, 321, 322, 537, 543, 629, 652, 679, 694, 700, 705, 763, 791, 814, 889.  
 —, propyl acetoacetate with, as plastic, 48.  
 —, pseudo-crystallization of, 837.  
 —, purifying, 438, 524, 860, 929, 1060, 1062.  
 —, pyridine for, hydrolyzing, 421.  
 —, pyridine for modifying properties of, 831.  
 —, quinoline for hydrolyzing, 421.  
 —, rayon covered with, 933.  
 —, reacetylation, 856.  
 —, record, phonograph, made using, 515, 536, 822, 859, 914, 990, 2603.

- Cellulose acetate, recovery, 441, 489, 551, 942.
- , —, cyclohexanone for, 440.
- , —, ethyl acetate for, 440.
- , —, furfural for, 440.
- , recovery from film, 475.
- , refraction of, 1041.
- , relaxation of, 1053.
- , relustring, 604, 608, 623, 636, 869, 937, 943, 952, 991, 1015.
- , resins miscible with, 916.
- , resinates, plastic of, with, 87.
- , resistance, electrical, light sensitive, made using, 731.
- , resistance to rupture, 1566.
- , resist printing on, 738.
- , ribbons, mfr. of, 225.
- , rigidity, 873.
- , —, permanent, 1033, 1042.
- , ripening, 595, 597, 779, 856, 923, 984.
- , —, *see also* Cellulose acetate, hydrating.
- , Roentgen-ray analysis of, 657.
- , Roentgen-spectrograph of, 71.
- , roll film, mfr., 989.
- , rosin compound with, 1090.
- , rotatory power of, 657.
- , rubber and, 665, 876, 938, 1078.
- , rubber combined with, 430, 810, 2409.
- , rubberized, 815.
- , rubber-like masses from, 514.
- , rubber, plastic of, with, 87.
- , —, vulcanized, combined with, 2542.
- , saponification of, 442, 494, 499, 501, 683, 721, 744, 746, 747, 810, 824, 832, 833, 862, 921, 1007, 1032, 1069, 1698, 2165.
- , —, *see also* Cellulose acetate, hydration.
- , saponification constants of, 807.
- , saponification value of, 446.
- , saponified, mfr., 483.
- , saponifying, differential, 960.
- , saponin in dyeing, 649.
- , satin, dyeing, 1001.
- , scouring, 652, 859.
- , scrap, recovery, 573.
- , scratch patterns on, producing, 2343.
- , screen of, 845.
- , screen, fluorescent, made using, 503, 2541.
- , —, multicolor, of, 909.
- , —, multicolor photographic, 917.
- Cellulose acetate, scrooping, 797, 828.
- , scroop on, increasing, 935.
- , selvage, plasticizing, 936.
- , sheet, flexible, made using, 468.
- , sheeting, apparatus from, 801.
- , shoe stiffened using, 2472.
- , short staple, 604.
- , shrinking, diminishing, 934.
- , silk and, dyeing, 665.
- , silk impregnated with, 331.
- , sizing, 748, 869, 933, 2139.
- , skein dyeing, 651.
- , slide lantern of, 1096.
- , soap in dyeing, 649.
- , sodium alginate with, as lacquer, 571.
- , sodium *o*-cresotinate dyeing, 665.
- , sodium ligninsulfonate in dyeing, 649.
- , softener, lanolin as, 449.
- , softening, 695, 956, 867.
- , —, Celfect for, 500.
- , solid alcohol containing, 364.
- , sols, elasticity of, 819.
- , —, viscosity of, 819.
- , solubility, 319, 397, 807, 813, 860, 871, 888, 984.
- , —, determining, 599, 870.
- , —, modifying, 464, 465, 466, 644, 1059.
- , solubilizing, 882.
- , solution, pump for, 840.
- , —, spray-drying, 910.
- , solvation of, 1032.
- , solvents, 595, 835, 910, 1786, 1849, 1982.
- , —, recovery of, 414.
- , solvent power of, 561.
- , specific conductivity, determining, 923.
- , specific gravity, determining, 923.
- , specific inductive capacity of, 485.
- , spectrographic diagram, 544.
- , spectrographic properties, 1370.
- , spectrography of, 208, 700.
- , spermaceti homogenized with, 946.
- , spinning, 642, 707, 721, 734, 753, 754, 1072.
- , —, apparatus for, 761.
- , spinning solutions of, 259.
- , spinning quality, improving, 708.

- Cellulose acetate, stability of, 505, 590, 615, 669, 694, 725, 734, 785.  
—, —, determining, 684.  
—, —, increasing, 643.  
—, stability test for, 595.  
—, stabilizer, 594.  
—, stabilizing, 950, 1056, 1060.  
—, stains on, removing, 650, 802.  
—, stencilling, 605.  
—, stencil made using, 663.  
—, stencil sheet made using, 663, 686, 763, 801, 2490, 2491, 2492, 2495.  
—, stereotype of, 404.  
—, stiffening, 937.  
—, storage of solution of, 1012.  
—, strength, increasing, 862, 953.  
—, stretch curve of plastic, 446.  
—, structure viscosity, 1054.  
—, sulfacetates in, estimating, 528.  
—, sulfur in, removing, 929, 956.  
—, sulfur dioxide liquid as solvent, 566, 620.  
—, sulfuric acid content of, 939.  
—, sulfuric acid treated, 2316.  
—, sulfuryl chloride catalyst in mfr. of, 427.  
—, sunlight, resistance to, 850.  
—, sunlight action on, 448.  
—, *supple*, see *Cellulose acetate, plastic*.  
—, supply of solutions of, 1012.  
—, surface tension, determining, 923.  
—, swelling, 552, 636, 715, 869, 959, 1004, 1043.  
—, —, measuring, 823.  
—, —, velocity of, 913.  
—, swelling agents for, 652.  
—, swelling of solutions of, 823.  
—, swollen, micrographs, 894.  
—, tannin mordanted, 886.  
—, tensile strength, increasing, 949.  
—, testing, 651, 763.  
—, tetrachlorethyl-acetanilid solvent for, 407.  
—, tetralin as solvent for, 539.  
—, tetralin with, as lacquer, 519.  
—, textile coated with, 385.  
—, thiocyanates as solvents of, 531, 1136.  
—, thread, mfr., 866.  
—, —, stretching, 1068.  
—, tin (ous) chloride catalyst in mfr. of, 412.  
—, tin-weighted, 814.  
Cellulose acetate, tobacco pipe made using, 588.  
—, toluene plastic with, 442.  
—, toluidine catalyst in mfr. of, 413.  
—, *o*-toluidine for hydrolyzing, 421.  
—, toughening, 535, 866.  
—, transparency, determining, 883.  
—, transparent, mfr., 650.  
—, treatment of, 543.  
—, triacetin melted with, 1090.  
—, trichloracetamide for reducing inflammability, 1055.  
—, trichlorhydrin solvent for, 407.  
—, trichlormethyl-acetanilide solvent for, 407.  
—, tricresyl phosphate for reducing inflammability of, 92.  
—, tricresyl phosphate solvent for, 407.  
—, triphenyl phosphate solvent for, 407, 421.  
—, tube of, 898, 2439.  
—, Turkey red oil in dyeing, 649.  
—, twill, dyeing, 1001.  
—, Tyndall number of, 561.  
—, ultra-violet radiation through, 657.  
—, unflammable, mfr., 383.  
—, urea solvent for, 407, 421.  
—, uses, 433, 991, 1079.  
—, vapor pressure of solutions of, 823.  
—, vapor transmission through, 842.  
—, varnish remover made using, 435.  
—, velvet, dyeing, 1001.  
—, viscosity of, 212, 524, 536, 561, 595, 615, 811, 813, 815, 899, 910, 924, 984, 1041, 1054, 1055, 1783.  
—, —, changes in, 1002.  
—, —, depressing, 924.  
—, —, determining, 703, 870, 884, 923, 926, 976, 1034.  
—, —, diminishing, 506, 635, 697, 1004.  
—, —, high, mfr., 450, 613.  
—, —, increasing, 375, 813.  
—, —, low, mfr., 590, 1036.  
—, —, lowering, 631, 927, 1055, 1357, 1895, 2016, 2017.  
—, —, ozone for, 1037.  
—, —, modifying, 941.  
—, —, predetermined, mfr., 613, 922.  
—, —, preserving, 441.



- Cellulose acetate, viscosity of, reducing, 541, 567, 601, 602, 742, 822, 980, 1357, 1358, 2397.  
—, —, stabilizing, 734.  
—, —, standardizing, 629.  
—, —, water effect on, 1357.  
—, viscosity of solutions of, 495, 823.  
—, voile, dyeing, 1001.  
—, warp effects on, mfr., 765.  
—, washing, 527, 678.  
—, waste, recovery, 573, 594.  
—, water, solubility, 1345.  
—, water absorption, determining, 870.  
—, waterproofing, 935, 2158.  
—, waterproofing compound containing, 575.  
—, water-soluble, 369.  
—, water vapor absorption of, 1007.  
—, water vapor adsorption, 1095.  
—, wax, plastic of, with, 87.  
—, weaving properties, 701.  
—, weighting, 615, 624, 767, 859, 862, 867, 961.  
—, wetting, 866, 2206.  
—, wetting agent, 853, 2210.  
—, window curtain mfr., using, 820.  
—, wire coated with, 2554.  
—, wire gauze coated using, 874.  
—, wire lacquered with, 343.  
—, wood, artificial, made using, 422.  
—, wood coated using, 491.  
—, wood fireproofed with, 441.  
—, wood pulp for mfr. of, 989.  
—, wool, artificial, made using, 467.  
—, wool impregnated with, 331.  
—, wool oil combined with, 430.  
—, X-ray, 891.  
—, —, spectrogram of, 837.  
—, X-ray action on, 618.  
—, X-ray analysis of, 1179.  
—, X-ray diagram, 544, 657, 914, 964, 965, 1324, 1371.  
—, X-ray properties, 696, 728.  
—, X-ray screen made using, 597.  
—, X-ray study, 700.  
—, xylene monomethylsulfonamide, melted with, 1090.  
—, yarn sized by, 933.  
—, yeast plastic with, 565.  
—, yellow tint in, neutralizing, 688.  
—, zinc alginate with, as lacquer, 571.  
—, zinc ammonium chloride for hydrolyzing, 421.  
Cellulose acetate, zinc chloride for modifying properties of, 831.  
—, zinc chloride for hydrolyzing, 421.  
—, zinc chloride treated, 2315.  
—, *see also* Cellulose di-, mono-, tri-acetate.  
Cellulose acetate A, 658.  
Cellulose acetate I, 965, 1051.  
Cellulose acetate II, 965.  
Cellulose acetate *p*-bromphenylhydrazone, 495.  
Cellulose monoacetate-distearate, lacquer, 899.  
—, wood coated using, 790.  
Cellulose acetate filament, conditioning, 2645.  
Cellulose acetate film, mfr. of, 251.  
—, matt surface of, 268.  
Cellulose acetate phenylhydrazine, 495.  
Cellulose acetate-phosphate, film backing of, 120.  
Cellulose acetate precipitation, method of, 2646.  
Cellulose acetate-stearate, film backing of, 119.  
Cellulose acetate tartrate, 302.  
Cellulose acetate toluene-*p*-toluenesulfonate, 1755.  
Cellulose acetating in vapor form, 400.  
Cellulose acetic acid, 1720.  
—, alkali salt of, gelatin substitute, 449.  
—, mfr., 518.  
—, salts of, 518.  
Cellulose acetoacetylsalicylate, mfr., 758, 1028, 1064.  
Cellulose acetoaminobenzoate, 993.  
Cellulose acetobenzenesulfonate, 1753.  
Cellulose acetobenzoate, 369, 1738.  
—, mfr. of, 140, 495, 758, 918, 942, 1021, 1028, 1064, 1734, 1738.  
Cellulose aceto- $\alpha$ -bromhexoate, mfr., 1740.  
Cellulose aceto- $\alpha$ -bromstearate, 1711.  
—, mfr., 759, 806, 1740.  
Cellulose acetobutyrate, 887, 980, 1064, 1702, 1735, 1739.  
—, acetone, solubility, 1345.  
—, alcohol, solubility, 1345.  
—, benzene, solubility, 1345.  
—, benzene as solvent for, 1802.  
—, benzine, solubility, 1345.

- Cellulose acetobutyrate, cellulose butyrate made using, 832.
- , deodorized, mfr., 1039.
- , ether, solubility, 1345.
- , ethylacetate, solubility, 1345.
- , filament, mfr., 2105.
- , glass, laminated, made using, 789, 2591.
- , homogenized, mfr., 1039.
- , insulating with, 880.
- , lacquer of, 981, 1080, 2398.
- , mfr. of, 284, 529, 559, 773, 785, 823, 833, 878, 981, 1011, 1064, 1065, 1738, 1739, 1741, 2159.
- , plastic of, 789, 2579.
- , water, solubility, 1345.
- Cellulose aceto-iso-butyrate, mfr., 758, 942, 1028.
- Cellulose aceto-*n*-butyrate, mfr., 758, 942, 1028.
- Cellulose aceto-*n*-butyrisobutyrate, mfr., 833.
- Cellulose acetobutyrolaurate, acetone, solubility, 1345.
- , alcohol, solubility, 1345.
- , benzene, solubility, 1345.
- , benzine, solubility, 1345.
- , carbon bisulfide as solvent for, 286.
- , delustring with, 286.
- , ether, solubility, 1345.
- , ethyl acetate, solubility, 1345.
- , matt effect produced by, 286.
- , water, solubility, 1345.
- Cellulose aceto-butyropropionate, 1739.
- Cellulose acetobutyrosulfite, mfr., 1739.
- Cellulose acetocaproate, 140.
- , mfr., 758, 1028, 1064.
- Cellulose acetocaproate, 140.
- , mfr., 1064.
- Cellulose aceto-*n*-caproate, mfr., 758, 1028.
- Cellulose aceto-caprylate, mfr., 758, 1028.
- Cellulose acetocarbonate, 1679.
- , mfr., 1739.
- Cellulose acetochlor-acetylsalicylate, mfr., 758.
- Cellulose acetochlor-benzoate, mfr., 758.
- Cellulose aceto-*ortho*-chlorbenzoate, mfr., 758, 759, 1028, 1064, 1740.
- Cellulose acetochlor-bromstearate, mfr., 759.
- Cellulose acetochlor-iso-butyrate, mfr., 758.
- Cellulose acetochlor-*n*-butyrate, mfr., 758.
- Cellulose acetochlor-caprate, mfr., 758.
- Cellulose acetochlor-*n*-caproate, mfr., 758.
- Cellulose acetochlor-caprylate, mfr., 758.
- Cellulose acetochlor-*o*-chlorbenzoate, mfr., 758.
- Cellulose acetochlorcinnamate, mfr., 1737.
- Cellulose acetochlor-crotonate, mfr., 758.
- Cellulose acetochlor-cyclohexanecarboxylate, mfr., 758.
- Cellulose acetochlor-*n*-heptylate, mfr., 758.
- Cellulose acetochlor-hydrocinnamate, mfr., 758.
- Cellulose acetochlor-laurate, mfr., 758.
- Cellulose acetochlor-*o*-methoxybenzoate, mfr., 758.
- Cellulose acetochlor-myristate, mfr., 758.
- Cellulose acetochlor-palmitate, mfr., 758.
- Cellulose acetochlor-pelargonate, mfr., 758.
- Cellulose acetochlor-phenylacetate, mfr., 758.
- Cellulose acetochlor-propionate, mfr., 758.
- Cellulose aceto-*a*-chlorstearate, mfr., 806.
- Cellulose acetochlor-iso-valerate, mfr., 758.
- Cellulose acetochlor-*n*-valerate, mfr., 758.
- Cellulose acetochromate, 1688.
- , mfr., 1739.
- Cellulose acetocinnamate, 1738.
- , mfr. of, 139, 918, 942, 1028, 1063, 1728, 1737.
- Cellulose acetococinate, mfr., 1739.
- Cellulose aceto-crotonate, 1728, 1729, 1735.
- , mfr. of, 139, 758, 622, 906, 942, 1028, 1064, 1728, 1741.
- Cellulose acetocyanacetate, 993.
- Cellulose acetocyclohexanecarboxylate, mfr. of, 139, 758, 942, 1028.
- Cellulose aceto-*ab*-dibrombutyrate, mfr., 622.

- Cellulose aceto-dibromstearate, mfr., 759, 1740.  
Cellulose aceto-distearate, mfr., 759.  
Cellulose monoaceto-distearate, chlorbenzene solvent, 201.  
—, dichloromethane solvent of, 201.  
—, wood coated with, 201.  
—, xylene solvent of, 201.  
Cellulose acetoethoxyacetate, 1694.  
Cellulose acetoformate, mfr., 641, 642, 763, 799, 1044.  
Cellulose acetoglycerate, 1738.  
—, film made using, 2506.  
—, mfr., 886, 918, 1738, 1741.  
Cellulose aceto-glycollate, 1724, 1738.  
—, film made using, 2506.  
—, mfr. of, 187, 886, 918, 1021, 1726, 1741.  
Cellulose acetoheptylate, mfr. of, 139.  
Cellulose aceto-*n*-heptylate, mfr., 758, 942, 1028.  
Cellulose aceto-hydracrylate, 1724.  
—, mfr. of, 187.  
Cellulose acetohydrocinnamate, mfr. of, 139, 758, 942, 1028, 1054.  
Cellulose aceto-*a*-ketobutyrate, 1738.  
—, mfr., 887, 198, 1021.  
Cellulose aceto-*a*-ketocaproate, 1738.  
—, mfr., 887, 918, 1021.  
Cellulose aceto-*a*-ketovaleate, 1738.  
—, mfr., 887, 918, 1021.  
Cellulose aceto-lactate, 1700, 1724, 2533.  
—, film made using, 2506.  
—, mfr. of, 187, 886, 1738, 1741.  
Cellulose acetolactyl-tartrate, mfr., 1022.  
Cellulose acetolaurate, 1735.  
—, acetone, solubility, 1345.  
—, alcohol, solubility, 1345.  
—, benzene, solubility, 1345.  
—, benzine, solubility, 1345.  
—, ether, solubility, 1345.  
—, ethyl acetate, solubility, 1345.  
—, glass, laminated, made using, 2591.  
—, mfr. of, 139, 233, 579, 758, 942, 1028, 1064, 1704, 1740.  
—, metal coated using, 790.  
—, plastic, mfr., 2575.  
—, uses, 1718.  
—, water, solubility, 1345.  
Cellulose acetolaurate, wood coated using, 790.  
Cellulose acetolevulinate, 1738.  
—, mfr., 887, 918, 1021, 1738.  
Cellulose acetomalate, 1738, 1948.  
—, dissolving, 267.  
—, film made using, 2506.  
—, iodobenzene solvent of, 1826.  
—, mfr., 886, 918, 1021, 1738, 1741.  
—, moniodobenzene solvent of, 1826.  
Cellulose acetomaleate, mfr., 985, 2314.  
Cellulose acetomandelate, 1738.  
—, film made using, 2506.  
—, mfr., 886, 918, 1021.  
Cellulose acetomethoxyacetate, 1694.  
Cellulose aceto-*o*-methoxybenzoate, mfr. of, 140, 758, 759, 942, 1028, 1064.  
Cellulose acetomyristate, mfr. of, 139, 758, 942, 1028, 1064, 1740.  
Cellulose acetonaphthenate, mfr., 979, 1065, 1713, 1741.  
Cellulose acetate, mfr., 1723.  
Cellulose acetonitrate, 1664, 1669, 1696, 1836, 1923, 2035.  
—, analysis of, 848.  
—, caoutchouc substitute containing, 432.  
—, capsule made using, 2523.  
—, dyeing, 2308.  
—, fiber made using, 2523.  
—, fibrous, mfr., 435.  
—, filaments from, 557, 735.  
—, filaments of, mfr., 496, 598.  
—, film made using, 689, 702, 2507, 2523.  
—, foils made using, 2523.  
—, lacquer, 1080.  
—, mfr., 349, 367, 410, 432, 455, 476, 490, 557, 585, 594, 598, 666, 684, 781, 783, 791, 871, 872, 877, 878, 887, 888, 929, 948, 949, 979, 1013, 1014, 1019, 1036, 1063.  
—, plastic of, 369.  
—, solubility, 557.  
—, spinning, 735.  
—, uses, 434, 735.  
—, wool and, fabric of, 982.  
—, *see also* Cellulose nitro-acetate.  
Cellulose acetoneitroacetate, 1664.  
Cellulose acetoneitrobenzoate, 993.  
Cellulose aceto-oleate, mfr., 1740.  
Cellulose aceto-oxalate, mfr., 1738.

- Cellulose acetopalmitate, 1735, 2158.  
—, glass, laminated, made using, 2591.  
—, mfr., of, 139, 758, 759, 942, 1028, 1064, 1714, 1717, 1740.  
Cellulose aceto-palmito-stearate, mfr., 942, 1717.  
Cellulose acetopelargonate, 140, 1028.  
—, mfr., 758.  
Cellulose acetophenylacetate, mfr. of, 233, 758, 1028, 1064.  
*Cellulose acetophenylate, see Cellulose phenylacetate.*  
Cellulose acetophosphate, 1669.  
—, film made of, 240, 2521.  
—, mfr. of, 243, 602.  
Cellulose acetophthalate, 1735.  
—, mfr., 835.  
Cellulose acetopropio-butyrate, mfr., 1021.  
Cellulose acetopropionate, 1735, 1739, 1741.  
—, acetone, solubility, 1345.  
—, alcohol, solubility, 1345.  
—, benzene, solubility, 1345.  
—, benzine, solubility, 1345.  
—, ether solubility, 1345.  
—, ethyl acetate, solubility, 1345.  
—, lacquer of, 981, 1036, 2398.  
—, mfr., 140, 758, 773, 785, 823, 981, 1028, 1064, 1717, 1738, 1739, 1741, 2159.  
—, plastic of, 789.  
—, water, solubility, 1345.  
Cellulose acetopyruvate, 1738.  
—, mfr., 887, 918, 1021, 1738.  
Cellulose acetoracemate, 1738.  
—, film made using, 2506.  
—, mfr., 886, 918, 1021, 1741.  
Cellulose aceto-salicylate, mfr., 918.  
Cellulose acetosilicate, 1688.  
Cellulose acetostearate, 153, 1735, 1948, 2158.  
—, dissolving, 267.  
—, film made of, 240, 1669, 2521.  
—, glass, laminated, made using, 2591.  
—, iodobenzene solvent of, 1826.  
—, mfr. of, 122, 139, 622, 759, 887, 942, 987, 1028, 1740, 1741.  
—, moniodobenzene solvent of, 1826.  
—, properties, 987.  
Cellulose acetosulfate, 1680, 1681, 1717.  
Cellulose acetosulfate, mfr., 615.  
—, stability, 615.  
Cellulose acetotartrate, 1738, 2337.  
—, film made using, 2506.  
—, mfr., 886, 918, 1021, 1738, 1741.  
*Cellulose acetotartryl-lactate, see Cellulose acetolactyltartrate.*  
Cellulose aceto-tetrabromstearate, mfr., 759.  
Cellulose aceto-tetrachlorstearate, mfr., 759, 1740.  
Cellulose acetotoluate, 1738.  
—, mfr., 1021.  
Cellulose aceto-*m*-toluate, mfr., 918.  
Cellulose aceto-*o*-toluate, mfr., 918.  
Cellulose aceto-*p*-toluate, mfr., 918.  
Cellulose aceto-toluenesulfonate, 1756.  
Cellulose aceto-*p*-toluenesulfonate, 1755.  
Cellulose aceto-toluene-4-sulfonate, mfr., 1755, 1756.  
Cellulose acetoundecylenate, mfr. of, 140, 622, 942.  
Cellulose acetovalerate, 140.  
—, mfr., 1064, 1739.  
Cellulose acetoisovalerate, mfr. of, 139, 758, 942, 1028.  
Cellulose aceto-*n*-valerate, mfr. of, 139, 758, 942, 1028.  
Cellulose acetyl acrylate, mfr., 986.  
Cellulose acetyl adipate, mfr., 986.  
Cellulose acetylanthranilate, mfr., 1742.  
Cellulose acetylbenzoylanthranilate, mfr., 1742.  
Cellulose acetylbenzoylphthalate, mfr., 1742.  
Cellulose acetylcinnamate, mfr., 986.  
Cellulose monoacetyldilaurate, 153.  
Cellulose monoacetyldinitrate, mfr., 476, 877.  
Cellulose monoacetyldistearate, 153.  
Cellulose acetylglutarate, mfr., 986.  
Cellulose acetylglycerate, mfr., 986.  
Cellulose acetyl-lactate, mfr., 986.  
Cellulose acetylmaleate, mfr., 986.  
Cellulose acetylmalonate, mfr., 986.  
Cellulose acetyloxalate, mfr., 986.  
Cellulose acetylpalmitate, mfr., 1741.  
Cellulose acetylphenylglycollate, mfr., 986.

- Cellulose acetylphthalate, mfr., 1742.  
Cellulose acetylpyruvate, mfr., 986.  
Cellulose acetylpyruvylbenzoate, mfr., 1021.  
Cellulose acetylpyruvylglycollate, mfr., 1021.  
Cellulose acetylpyruvyl-*a*-ketobutyrate, mfr., 1021.  
Cellulose acetylpyruvyl-*a*-ketocaproate, mfr., 1021.  
Cellulose acetylpyruvyl-*a*-ketovalerate, mfr., 1021.  
Cellulose acetylpyruvyl-lactate, mfr., 1021.  
Cellulose acetylpyruvyl-levulinate, mfr., 1021.  
Cellulose acetylpyruvylmalate, mfr., 1021.  
Cellulose acetylpyruvylmandelate, mfr., 1021.  
Cellulose acetylpyruvylpyruvate, mfr., 1021.  
Cellulose acetylpyruvylracemate, 1021.  
Cellulose acetylpyruvyltartrate, 1021.  
Cellulose acetylpyruvyltoluate, mfr., 1021.  
Cellulose acetylsalicylate, mfr., 986.  
Cellulose acetylsuccinate, mfr., 986.  
Cellulose acetyltartrate, mfr., 986.  
Cellulose acetyl-*m*-toluate, mfr., 986.  
Cellulose alcohol oxalate, mfr., 870.  
Cellulose alkacyl-alkoxyalkacyl, derivatives of, mfr. of, 1694.  
Cellulose alkylcarbonate, mfr., 459.  
Cellulose alkylurethane, benzylating, 91.  
—, ethylating, 91.  
—, methylating, 91.  
Cellulose allyloxalate, 1727.  
Cellulose *o*-amidobenzoate, mfr., 1732.  
Cellulose amido-ether, mfr., 274.  
Cellulose amino-aliphatic esters, 1694.  
Cellulose aminobenzoate, 868, 1087.  
Cellulose amino-ether, mfr., 1383.  
Cellulose aminopropionate, 1638, 1756.  
Cellulose *iso*-amyloxalate, 1727.  
Cellulose angelate, 2003.  
—, mfr., 1702.  
Cellulose anthranilate, mfr., 1732.  
Cellulose arylcarbamate, mfr., 459.  
Cellulose arylurethane, benzylating, 91.  
—, ethylating, 91.  
—, methylating, 91.  
Cellulose B, 205, 1329.  
Cellulose-benzene-ether-sulfonic acid, 1682.  
Cellulose-benzene-sulfonate, 1682, 1752.  
—, mfr. of, 682.  
Cellulose benzoate, 4, 427, 868, 1396, 1494, 1685, 1701, 1729, 1749.  
—, chloroform solvent for, 1813.  
—, dyeing, 5.  
—, etherifying, 1434.  
—, explosive containing, 330.  
—, film of, 702, 2507.  
—, isoprene polymers as plasticizer for, 429.  
—, mfr. of, 495, 553, 621, 700, 1021, 1603, 1730, 1732, 2314.  
—, phenol-formaldehyde plastic with, 440.  
—, plastic made using, 2559.  
—, plastic of with carbon bisulfide, 440.  
—, properties, 700.  
—, stereotype of, 404.  
—, uses, 1734, 1745.  
Cellulose benzoglycerate, mfr., 1738.  
Cellulose benzolactate, mfr., 1738.  
Cellulose benzolevulinate, mfr., 1738.  
Cellulose benzomalate, mfr., 1738.  
Cellulose benzo-oxalate, mfr., 1738.  
Cellulose benzopyruvate, 1738.  
—, dioxane solvent for, 1877.  
—, mfr. of, 1738.  
Cellulose benzotartrate, mfr., 1738.  
Cellulose benzoyl acetate, mfr., 1734.  
Cellulose benzoyl acrylate, mfr., 986.  
Cellulose benzoyl adipate, mfr., 986.  
Cellulose benzoylanthranilate, mfr., 1742.  
Cellulose benzoyl cinnamate, mfr., 986.  
Cellulose benzoyl glutarate, mfr., 986.  
Cellulose benzoyl glycerate, mfr., 986.  
Cellulose benzoyl lactate, mfr., 986.

- Cellulose benzoyl maleate, mfr., 986.  
 Cellulose benzoyl malonate, mfr., 986.  
 Cellulose benzoyl oxalate, mfr., 986.  
 Cellulose benzoyl phenylglycollate, mfr., 986.  
 Cellulose benzoylphthalate, mfr., 1742.  
 Cellulose benzoylpyruvate, mfr., 986.  
 Cellulose benzoyl salicylate, mfr., 986.  
 Cellulose benzoyl succinate, mfr., 986.  
 Cellulose benzoyl tartrate, mfr., 986.  
 Cellulose benzoyl *m*-toluate, mfr., 986.  
 Cellulose benzoyl toluenesulfonate, 1757.  
 Cellulose benzoyl-*p*-toluenesulfonate, 1755.  
 Cellulose benzylphenylurethane, 91.  
 Cellulose benzyltolylurethane, 91.  
 Cellulose borate, mfr., 700.  
 —, properties, 700.  
 Cellulose boro-acetate, mfr. of, 122.  
 Cellulose bromacetate, mfr., 187.  
 Cellulose bromacetylsalicylate, mfr., 622.  
 Cellulose brombenzoate, mfr., 621, 1734.  
 Cellulose brom-*n*-butyrate, mfr., 621.  
 Cellulose bromcaprate, mfr., 621.  
 Cellulose brom-*n*-caproate, mfr., 621.  
 Cellulose bromcaprylate, mfr., 621.  
 Cellulose brom-*o*-chlorbenzoate, mfr., 621.  
 Cellulose bromcinnamate, mfr., 622.  
 Cellulose bromcrotonate, mfr., 621.  
 Cellulose bromcyclohexanecarboxylate, mfr., 621.  
 Cellulose brom-*n*-heptylate, mfr., 621.  
 Cellulose bromhydrocinnamate, mfr., 622.  
 Cellulose bromlaurate, mfr., 621.  
 Cellulose brom-*o*-methoxybenzoate, mfr., 621.  
 Cellulose brom-myristate, mfr., 621.  
 Cellulose brompalmitate, mfr., 621.  
 Cellulose brompelargonate, mfr., 621.  
 Cellulose bromphenylacetate, mfr., 622.  
 Cellulose brompropionate, mfr., 621.  
 Cellulose bromstearate, mfr., 621.  
 Cellulose brom-*iso*-valerate, mfr., 621.  
 Cellulose brom-*n*-valerate, mfr., 621.  
 Cellulose butyrate, 1340, 1659, 1696, 1700, 1701, 1749, 1948, 2390.  
 —, acetone solubility, 1345.  
 —, alcohol solubility, 1345.  
 —, amyl nitrite for hydrolyzing, 1014.  
 —, benzene solubility, 1345.  
 —, benzine solubility, 1345.  
 —, bleaching, 1014.  
 —, borneol plastifier for, 352.  
 —, 4-brom-2-nitro-diphenylamine for dyeing, 750.  
 —, 4-brom-2'-nitro-diphenylamine for dyeing, 750.  
 —, 4-brom-2-nitro-4'-methoxy-diphenylamine for dyeing, 750.  
 —, cellulose acetate dyed in presence of, 991.  
 —, cellulose ether for thickening paste of, 172.  
 —, 4-chlor-2-nitro-4-acetamido-diphenylamine for dyeing, 750.  
 —, 4-chlor-2-nitro-4'-ethoxy-diphenylamine for dyeing, 750.  
 —, 4-chlor-2-nitro-3'-methyl-diphenylamine for dyeing, 750.  
 —, cloth coated with, 141.  
 —, delustred, restoring luster, 135.  
 —, delustred, 774.  
 —, deodorized, mfr., 1039.  
 —, dyeing, 934.  
 —, etherifying, 1434.  
 —, ether solubility, 1345.  
 —, ethyl acetate, solubility, 1345.  
 —, ethyl nitrite for hydrolyzing, 1014.  
 —, explosive containing, 330.  
 —, fabric of, printing on, 2328.  
 —, film of, 103.  
 —, glass, laminated, made using, 294.  
 —, guanidine nitrite for hydrolyzing, 1014.  
 —, homogenized, mfr., 1039.  
 —, hydrolysis of, 1012.  
 —, hydrolyzing, 1014.  
 —, ironing, 172.  
 —, isoborneol plastifier for, 352.

- Cellulose butyrate, isoprene polymers as plasticizer for, 429.
- , linen coated with, 383.
- , mfr. of, 185, 328, 360, 495, 529, 559, 588, 621, 667, 700, 773, 811, 832, 833, 865, 875, 905, 907, 918, 928, 942, 968, 1012, 1057, 1058, 1739.
- , mordanting, 2156.
- , 2-nitro-4'-acetamido-diphenylamine for dyeing, 750.
- , 2-nitro-diphenylamine for dyeing, 750.
- , 2-nitro-4'-ethoxy-4-methyl-diphenylamine for dyeing, 750.
- , nitrogen dioxide for hydrolyzing, 1014.
- , nitrogen tetroxide for hydrolyzing, 1014.
- , 2-nitro-4-methyl-diphenylamine for dyeing, 750.
- , nitrous acid for hydrolyzing, 1014.
- , plastic made using, 2559, 2569.
- , properties, 700, 968.
- , resinous condensate with, 200.
- , saponifying, 744, 747, 1698.
- , solvent for, 1982.
- , spinning solutions of, 259.
- , stencil sheet made using, 2491.
- , warp effects on mfr., 765.
- , water solubility, 1345.
- , waterproofing, 2158.
- , weighting, 2156.
- Cellulose *iso*-butyrate, mfr., 905.
- Cellulose butyrate naphthenate, glass, laminated, made using, 789.
- Cellulose butyroacetate, see Cellulose acetobutyrate.*
- Cellulose butyrodiate, 1739.
- Cellulose butyroformate, mfr., 1044.
- Cellulose butyroglycerate, mfr., 1738.
- Cellulose butyro-glycollate, mfr., 1726.
- Cellulose butyrolaurate, acetone solubility, 1345.
- , alcohol solubility, 1345.
- , benzene solubility, 1345.
- , benzine solubility, 1345.
- , cable, insulation of, made using, 1718.
- , carbon bisulfide as solvent for, 286.
- , delustring with, 286.
- Cellulose butyrolaurate, ether solubility, 1345.
- , ethyl acetate solubility, 1345.
- , glass, laminated, made using, 789, 1719, 2591.
- , —, safety, for, 1719.
- , matt effect produced by, 286.
- , water solubility, 1345.
- Cellulose butyrolevalinate, mfr., 1738.
- Cellulose butyromalate, mfr., 1738.
- Cellulose butyromethoxy-benzoate, mfr., 1717.
- Cellulose butyro-*o*-methoxy-benzoate, mfr. of, 140.
- Cellulose butyronaphthenate, glass, laminated, made using, 2591.
- Cellulose butyro-nitrate, 1696.
- , mfr. of, 929, 1063.
- Cellulose butyro-oxalate, mfr., 1738.
- Cellulose butyro-propionate, mfr., 878, 1065.
- Cellulose butyropyruvate, mfr., 1738.
- Cellulose butyroricinoleate, glass, laminated, made using, 2591.
- , mfr., 1713, 1741.
- Cellulose butyrotartrate, mfr., 1738.
- Cellulose butyryl acrylate, mfr., 986.
- Cellulose butyryl adipate, mfr., 986.
- Cellulose butyrylanthranilate, mfr., 1742.
- Cellulose butyryl cinnamate, mfr., 986.
- Cellulose butyryl glutarate, mfr., 986.
- Cellulose butyryl glycerate, mfr., 986.
- Cellulose butyryl lactate, mfr., 986.
- Cellulose butyryl maleate, mfr., 986.
- Cellulose butyryl malonate, mfr., 986.
- Cellulose butyryl oxalate, mfr., 986.
- Cellulose butyryl phenylglycollate, mfr., 986.
- Cellulose butyrylphthalate, mfr., 1742.
- Cellulose butyryl pyruvate, mfr., 986.
- Cellulose butyryl salicylate, mfr., 986.
- Cellulose butyryl succinate, mfr., 986.

- Cellulose butyryl tartrate, mfr., 986.  
Cellulose butyryl *m*-toluate, mfr., 986.  
Cellulose caprate, 153.  
Cellulose caproate, 153.  
—, mfr., 621, 942, 1705.  
Cellulose caproformate, mfr., 1044.  
Cellulose capronate, acetone solubility, 1345.  
—, alcohol solubility, 1345.  
—, benzene solubility, 1345.  
—, benzine solubility, 1345.  
—, ether solubility, 1345.  
—, ethyl acetate solubility, 1345.  
—, water solubility, 1345.  
Cellulose carbamate, 738, 2033.  
—, film made using, 2508.  
—, mfr., 1760.  
Cellulose carbonate, 1678.  
—, mfr., 544.  
—, properties, 544.  
Cellulose cetyl-oxalate, 1727.  
Cellulose chloracetamide, 1695.  
Cellulose chloracetate, 1694, 1696, 1870.  
—, dispersion of, 561.  
—, mfr. of, 187, 759, 784, 1740.  
—, sizing with, 2137.  
—, solvent power of, 561.  
—, viscosity of, 561.  
Cellulose chloracetylsalicylate, mfr., 622.  
Cellulose chlorbenzoate, 427.  
—, mfr., 621.  
*Cellulose p*-chlorbenzyl ether, see *p*-Chlorbenzylcellulose.  
Cellulose chlor-*n*-butyrate, mfr., 621.  
Cellulose chlorcaprate, mfr., 621.  
Cellulose chlor-*n*-caproate, mfr., 621.  
Cellulose chlorcaprylate, mfr., 621.  
Cellulose chlor-*o*-chlorbenzoate, mfr., 621.  
Cellulose chlorcinnamate, mfr., 622.  
Cellulose chlorcrotonate, mfr., 621.  
Cellulose chlorcyclohexanecarboxylate, mfr., 621.  
Cellulose chlor-*n*-heptylate, mfr., 621.  
Cellulose chlorhydrin, 1380.  
—, properties, 90.  
Cellulose chlorhydrocinnamate, mfr., 622.  
Cellulose chloride, cellulose acetate made using, 578.  
Cellulose chloride, mfr. of, 578.  
Cellulose chlorlaurate, mfr., 621.  
Cellulose chlor-*o*-methoxybenzoate, mfr., 621.  
Cellulose chlormyristate, mfr., 621.  
Cellulose chlorpalmitate, mfr., 621.  
Cellulose chlorpelargonate, mfr., 621.  
Cellulose chlorphenylacetate, mfr., 622.  
Cellulose chlorpropionate, mfr., 621.  
Cellulose chlorstearate, mfr., 621, 759, 1740.  
Cellulose chlor-*iso*-valerate, mfr., 621.  
Cellulose chlor-*n*-valerate, mfr., 621.  
Cellulose cinchomerionate, mfr., 1731.  
Cellulose cinnamate, 870, 1737.  
—, mfr., 759, 807, 1737.  
Cellulose citrate, film made using, 2504.  
—, film, light-sensitive, made using, 630.  
Cellulose crotonate, 1728, 1729, 2643.  
—, mfr., 807, 833, 835, 906, 1028, 1638, 1727.  
Cellulose crotonic esters, 2643.  
Cellulose crotonostearate, mfr., 622, 1028.  
Cellulose crotonophthalate, mfr., 835.  
Cellulose crotonyl acetate, 1728.  
Cellulose crotonyl phthalate, 1728.  
Cellulose crotonyl stearate, 1728.  
Cellulose cyanoacetate, 890, 993, 1087, 1745.  
Cellulose derivative, alkylpiperidine in mfr. of, 228.  
—, amyl acetate in mfr. of, 228.  
—, *iso*-amyldiethylamine in mfr. of, 228.  
—, benzylacetate in mfr. of, 228.  
—, crepe effect on, 2332.  
—, diethyl malonate in mfr. of, 228.  
—, diethyl oxalate in mfr. of, 228.  
—, diethyl succinate in mfr. of, 228.  
—, diethyl-*n*-hexylamine in mfr. of, 228.  
—, dimethyl malonate in mfr. of, 228.  
—, dimethyl succinate in mfr. of, 228.



- Cellulose derivative, dyeing, electrical treatment, 2210.  
—, ethyl acetate in mfr. of, 228.  
—, ethyl ethoxyacetate in mfr. of, 228.  
—, ethyl laurate in mfr. of, 228.  
—, ethylpiperidine in mfr. of, 228.  
—, methyl acetate in mfr. of, 228.  
—, methyl piperidine in mfr. of, 228.  
—, printing on, 2320.  
—, resins and, 762.  
—, rubber and, 762.  
—, viscosity of, reducing, 2644.  
—, *m*-xylenyl acetate in mfr. of, 228.  
—, *p*-xylenyl acetate in mfr. of, 228.  
Cellulose dextrin, 657, 965.  
—, methylating, 1308.  
Cellulose dextrin I, 75.  
—, methylcellulose from, 1319.  
Cellulose diacetate, 334.  
—, crystalline, 657.  
—, dyeing, 757.  
—, filaments from, 200.  
—, fluorescence, 994.  
—, hydrolysis, velocity of, 709.  
—, mfr. of, 200, 315, 595, 757, 1063.  
—, molecular condition, 914.  
—, printing on, 757.  
—, properties, 659.  
Cellulose diacetic acid, 980.  
—, dressing agent, 2215.  
—, softener, 2215.  
Cellulose diacetocrotonate, mfr., 906.  
Cellulose diacetolaurate, 153.  
Cellulose diacetomonobutyrate, 1900.  
Cellulose diaceto-palmitate, 153.  
Cellulose diaminobenzoate, 1751.  
Cellulose dibenzoate, 1733.  
—, benzoyl chloride in mfr. of, 594.  
—, mfr., 594, 621, 1734.  
—, properties, 594.  
Cellulose *ab*-dibromphenylpropionate, mfr., 622.  
Cellulose dibutyrate, mfr., 1063.  
Cellulose di-caproate, 153, 1706.  
Cellulose dicarbonate, 1678.  
Cellulose dichloracetate, filaments from, 200.  
—, mfr. of, 200.  
Cellulose dicinnamate, 1737.  
—, mfr. of, 871.  
Cellulose dicrotonate, 1638, 1756.  
Cellulose didi-chloracetate, 1695.  
Cellulose diethylthiourethane, mfr. of, 90, 1642.  
Cellulose diformate, mfr., 1017.  
Cellulose difuroate, mfr., 986, 1730.  
Cellulose dihydrodithiomethanephylamine, mfr., 1760.  
Cellulose dilaurate, 153, 1675, 1703, 1708, 2159.  
—, benzene solvent for, 538, 1802.  
—, chlorobenzene solvent of, 201.  
—, chloroform solvent for, 538, 1813.  
—, dichloromethane solvent of, 201.  
—, lacquer containing, 899, 2399.  
—, mfr. of, 154, 537, 541, 560, 648, 1704, 1705.  
—, metal coated using, 790.  
—, properties of, 538, 541, 648, 709.  
—, pyridine solvent for, 538.  
—, solubility, 560.  
—, tetrachlorethane solvent for, 538.  
—, wood coated with, 201, 790.  
—, xylene solvent of, 201.  
—, X-ray examination, 895.  
Cellulose di-margarate, 153.  
Cellulose dimethyloxalate, mfr., 1723.  
Cellulose dinaphtenate, carbon bisulfide as solvent for, 286.  
—, delustring with, 286.  
—, mfr. of, 681, 1707.  
—, matt effect produced by, 286.  
Cellulose dinitrate, 948, 1677, 1716, 1736.  
—, laurating, 879.  
Cellulose dinitrate-mononitrobenzoate, mfr., 1734.  
Cellulose dinitrolaurate, 153.  
Cellulose dinitropalmitate, 153.  
*Cellulose 2,4-dinitrophenyl ether*, see *2,4-Dinitrophenylcellulose*.  
Cellulose dipalmitate, 153, 1714.  
—, benzene solvent for, 538.  
—, chloroform solvent for, 538, 1813.  
—, mfr., 537, 560, 579, 648, 1704.  
—, properties, 538, 648.  
—, pyridine solvent for, 538.  
—, solubility, 560.  
—, tetrachlorethane solvent for, 538.  
Cellulose dipropionate, mfr., 1063.  
Cellulose diricinoleate, mfr., 560.  
—, solubility, 560.

- Cellulose distearate, 153, 1703, 1708, 1709.  
 —, benzene solvent for, 538.  
 —, chloroform solvent for, 538, 1813.  
 —, mfr., 537, 541, 560, 648, 1704.  
 —, properties, 538, 541, 648, 709.  
 —, pyridine solvent for, 538.  
 —, solubility, 560.  
 —, tetrachlorethane solvent for, 538.  
 —, varnish of, mfr., 991.  
 —, X-ray examination, 895.  
 Cellulose dithiomethane-aniline, mfr., 255.  
 Cellulose dithiomethane-phenylamine, mfr., 255.  
 Cellulose ditri-chloroacetate, 1695.  
 Cellulose dixanthate, acetamide compound of, 148.  
 —, ammonia compound of, 148.  
 —, benzamide compound of, 148.  
 —, cyanamide compound of, 148.  
 —, dicyanamide compound of, 148.  
 —, dicyanodiamide compound of, 148.  
 —, guanidine compound of, 148.  
 —, nitrogen compounds of, 148.  
 —, phthalimide compound of, 148.  
 —, thiourea compound of, 148.  
 Cellulose elaidate, 153.  
 —, plastic, mfr., 2575.  
 —, uses, 1717.  
 Cellulose enanthate, *see* Cellulose ocanthate.  
 Cellulose ester, acacia for treating, 275.  
 —, acetone solubility of, 682, 683.  
 —, acetoxime solvent for, 267.  
 —, acetylphenylglycine solvent for, 267.  
 —, adsorption capacity of, 985.  
 —, airplane coated with, 2484.  
 —, alizarin Astrol B dye for, 62.  
 —, amber and as varnish, 246.  
 —, 4-aminoazobenzene for dyeing, 145.  
 —, *p*-aminodiphenylamine for dyeing, 137.  
 —, Aniline Black dye for, 62.  
 —, aniline for polymerizing, 248.  
 —, auramine for treating, 275.  
 —, Azo Yellow 3 G dye for, 62.  
 —, barium oleate and for varnish, 249.  
 —, barium resinate and for varnish, 249.  
 Cellulose ester, binding agent of, formation, 291.  
 —, biophane waterproofed by, 139.  
 —, block, molded, made using, 162.  
 —, brilliantine waterproofed by, 139.  
 —, brocade effect on, 263.  
 —, *p*-brombenzaldehyde solvent for, 267.  
 —, *iso*-butylglycollates plasticizer for, 169.  
 —, *n*-butylglycollates plasticizer for, 169.  
 —, *iso*-butyl thioglycollates plasticizer for, 169.  
 —, *n*-butyl thioglycollates plasticizer for, 169.  
 —, calcium oleate and for varnish, 249.  
 —, calcium resinate and for varnish, 249.  
 —, calendering, 213.  
 —, cello-glass waterproofed by, 139.  
 —, cellophane waterproofed by, 139.  
 —, cellulose, hydrated, waterproofed by, 139.  
 —, ceramic filled with, 260.  
 —, chlorocyclohexane solvent for, 267.  
 —, 1-chlor-2,6-dinitrobenzenesulfonic acid for dyeing, 145.  
 —, chlorinated, dyeing, 787.  
 —, 1-chlor-4-nitrobenzene-2-sulfonic acid for dyeing, 145.  
 —, citric acid for treating, 275.  
 —, coagulating, 226.  
 —, coating containing, 201.  
 —, copal and as varnish, 246.  
 —, crepe effect on, 263.  
 —, cross-dyeing, 731.  
 —, damask effect, permanent, produced with, 2340.  
 —, delustring, 198, 210, 220, 221, 228, 229, 260, 261, 270, 273, 274, 283.  
 —, —, urea for, 198.  
 —, diazotypes made using, 2534.  
 —, 1,4-dimethoxy-anthraquinone-1,4-diethyl-dimethyl ether in dyeing, 243.  
 —, 1,4-dimethoxy-anthraquinone in dyeing, 243.  
 —, N,N'-dimethyl-indigo for dyeing, 201.

- Cellulose ester, dramatine water-proofed by, 139.  
—, dry-spinning of, 204.  
—, dyed, discharging, 165.  
—, dyeing, 62, 111, 121, 134, 137, 142, 164, 197, 198, 201, 207, 210, 217, 219, 220, 228, 235, 238, 239, 240, 242, 243, 245, 264, 267, 271, 277, 281, 284, 285, 299, 304, 305, 671, 749.  
—, —, black, 179.  
—, —, disazo dyes for, 120.  
—, —, intermittently, 221.  
—, electrical discharge in, reducing, 215.  
—, electric discharge of, reducing, 256.  
—, electric disruptive strength resistance of, 125.  
—, embossing on, 271.  
—, emulsion, manufacture, 214, 223.  
—, enamel of, manufacture, 249, 294.  
—, esterifying, 1434.  
—, ethyl  $\alpha$ -brompropionate solvent for, 267.  
—, ethyl chlorcarbonate solvent for, 267.  
—, fabric, printing on, 263.  
—, fiber made with, 199.  
—, filament, conditioning, 303.  
—, film containing, 199, 240, 486.  
—, fireproofing, 875.  
—, fire-resistant, manufacture, 473.  
—, flexoloid waterproofed by, 139.  
—, flowers, artificial, made using, 972.  
—, glassolyn waterproofed by, 139.  
—, glyceryl benzoyl benzoate combined with, 202.  
—, glyceryl trilactate combined with, 202.  
—, graphite combined with, 2543.  
—, hexachlorethane plastic for, 294.  
—, hydrochloric acid for reducing viscosity of, 201.  
—, inflammability, reducing, 43.  
—, ink for, 964, 2475, 2547.  
—, iodobenzene solvent for, 267.  
—, ironing, 213.  
—, —, improving property of, 176.  
—, —, resistance to, increasing, 270.  
—, jelling, preventing, 162.  
—, lake produced in, 166.  
Cellulose ester, latex, rubber, combined with, 2543.  
—, leather cloth coated with, 245.  
—, leather coated with, 245.  
—, livering, preventing, 1262.  
—, luminescent, manufacture of, 134.  
—, luster, increasing, 303.  
—, —, modifying, 2166.  
—, Magenta dye for, 62.  
—, magnesium oleate and for varnish, 249.  
—, magnesium resinate and for varnish, 249.  
—, malachite green dye for, 62.  
—, malachite green for treating, 275.  
—, metal coated with, 248.  
—, metal filled with, 260.  
—, metallic effect on, producing, 163.  
—, methyl anisate solvent for, 267.  
—, methyl-*m*-brombenzoate solvent for, 267.  
—, Methylene Blue B dye for, 62.  
—, methyl glycollates for plasticizer for, 169.  
—, methylthioglycollates plasticizer for, 169.  
—, Methyl Violet dye for, 62.  
—, mixed, manufacture, 122.  
—, monobutylin-benzoylbenzoate and as varnish, 202.  
—, monobutylin-dilactate and as varnish, 202.  
—, monobutylin-oxalate and as varnish, 202.  
—, monobutylin-phthalate and as varnish, 202.  
—, monobutylin-pyruvate and as varnish, 202.  
—, monobutylin-salicylate and as varnish, 202.  
—, monobutylin-tartrate and as varnish, 202.  
—, monoethylin-benzoylbenzoate and as varnish, 202.  
—, monoethylin-benzoylbenzoate combined with, 202.  
—, monoethylin-dilactate and as varnish, 202.  
—, monoethylin-oxalate and as varnish, 202.  
—, monoethylin-phthalate and as varnish, 202.  
—, monoethylin-pyruvate and as varnish, 202.

- Cellulose ester, monoethylin-salicylate and as varnish, 202.
- , monoethylin-tartrate and as varnish, 202.
- , monomethylin-benzoylbenzoate and as varnish, 202.
- , monomethylin-dilactate and as varnish, 202.
- , monomethylin-oxalate and as varnish, 202.
- , monomethylin-phthalate and as varnish, 202.
- , monomethylin-pyruvate and as varnish, 202.
- , monomethylin-salicylate and as varnish, 202.
- , monomethylin-tartrate and as varnish, 202.
- , monopropylin-benzoylbenzoate and as varnish, 202.
- , monopropylin-dilactate and as varnish, 202.
- , monopropylin-oxalate and as varnish, 202.
- , monopropylin-phthalate and as varnish, 202.
- , monopropylin-pyruvate and as varnish, 202.
- , monopropylin-salicylate and as varnish, 202.
- , monopropylin-tartrate and as varnish, 202.
- , mordanting, 226.
- , multi-color screen for, 277.
- , napkin waterproofed by, 209.
- , negative diazotypes made using, 2534.
- , Nigrosine B dye for, 62.
- , nitrile group in, mfr. of, 273.
- , opacity, producing on, 210.
- , Orange II dye for, 62.
- , organic, cigarette tip containing, 2432.
- , paper sized by, 235.
- , Paramine Brown dye for, 62.
- , pattern effect on producing, 264.
- , patterns on, mfr. of, 186.
- , phenoxyphosphoric acid for polymerizing, 248.
- , phosphine chloride for polymerizing, 248.
- , phosphine phenylchloride for polymerizing, 248.
- , phosphorescent, mfr. of, 134.
- , tin (ous) oxychloride for polymerizing, 248.
- Cellulose ester, phosphorous sulfochloride for polymerizing, 248.
- , phosphorous trichloride for polymerizing, 248.
- , photographic screen for, 300.
- , pigmentation of, 2476.
- , pigment in, producing, 300.
- , plastic, mfr., 276.
- , plastic of casein and, 352.
- , polariscopic action of, 315.
- , polarity of, 732.
- , polymerising, 248.
- , potassium thiocyanate for treating, 275.
- , printing on, 121, 251, 271, 292, 671, 2278.
- , —, ink for, 2330.
- , *iso*-propyl bromide solvent for, 267.
- , propyl glycolates plasticizer for, 169.
- , propyl thioglycolates plasticizer for, 169.
- , pyridine for polymerizing, 248.
- , quinoline for polymerizing, 248.
- , record, phonograph, made using, 162.
- , relustring, 220.
- , resin combined with, 58, 202.
- , Rocelline dye for, 62.
- , rosin combined with, 58.
- , rubber coated with, 245.
- , sheets, coating, 296.
- , signal, traffic, made using, 1001.
- , silk woven with, 259.
- , silver coating, 296.
- , sizing with, 2139.
- , smaline waterproofed by, 139.
- , softener, 698.
- , solubility, increasing, 789.
- , solutions, purifying, 1035.
- , solvents, 307.
- , —, recovery of, 399.
- , spinning, 204.
- , —, apparatus for, 206.
- , sponge, artificial, made using, 2536.
- , staple fiber, mfr., 220.
- , strontium oleate and for varnish, 249.
- , strontium resinate and for varnish, 249.
- , thickening agent, 239.
- , Thioflavine T dye for, 62.
- , tin (ous) chloride for treating, 275.

- Cellulose ester, *p*-toluenesulfon-chloramide for dyeing, 137.  
—, towel waterproofed by, 209.  
—, 1.4.8-trimethoxy-anthraquinone-1.4-dithioldimethyl ether in dyeing, 243.  
—, 1.4.8-trimethoxy-anthraquinone in dyeing, 243.  
—, tripropionin solvent for, 267.  
—, varnish of, mfr. of, 202, 249.  
—, viscosity, reducing, 201, 227, 810.  
—, washcloth waterproofed by, 209.  
—, zinc oxide combined with, 2543.  
Cellulose ester adherence, increasing, 225.  
Cellulose ester enamel, mfr., 223.  
Cellulose ester-ethers, mfr., 1434.  
—, playing card containing, 203.  
Cellulose ester filament, acetone (hydrous) in mfr. of, 226.  
Cellulose ester luster, preserving, 219.  
Cellulose ester plastic, colored, 151.  
Cellulose ester-stearin, 1065.  
Cellulose ester, 1699.  
Cellulose ether, acacia for treating, 275.  
—, acetanilid as solvent for, 68.  
—, acetic acid mordanted with, 104.  
—, acetone-glycerol plasticizer for, 97.  
—, acetone solvent for, 1879.  
—, acetoxime solvent for, 267.  
—, acetylphenyl glycine solvent for, 267.  
—, airplane coated with, 2484.  
—, alkali-soluble, mfr., 83, 293.  
—, alkylamines in lacquer of, 155.  
—, alkyl content, increasing, 1419.  
—, allyl bromide in mfr. of, 250.  
—, aluminum acetate mordanted with, 104.  
—, aluminum butylate incorporated with, 272.  
—, aluminum *o*-cresolate incorporated with, 272.  
—, aluminum ethylate incorporated with, 272.  
Cellulose ether, aluminum fluoride for reducing inflammability of, 92.  
—, aluminum naphthenate for sizing of, 107.  
—, aluminum palmitate with as lacquer, 192.  
—, aluminum phenolate incorporated with, 272.  
—, aluminum phosphate for reducing inflammability of, 92.  
—, aluminum phosphates for weighting, 110.  
—, aluminum isopropylate incorporated with, 272.  
—, aluminum resinate for sizing of, 107.  
—, aluminum salts for weighting, 227.  
—, aluminum silicates for weighting, 110.  
—, amber and as varnish, 246.  
—, 4-amino-azobenzene for dyeing, 145.  
—, 4-aminobenzene-1-sulfamide in dyeing of, 67.  
—, aminobenzoic acid esters and for lacquer mfr., 2416.  
—, aminocresol ether in dyeing of, 67.  
—, *p*-aminodiphenylamine for dyeing, 137.  
—, ammonium naphthenate for sizing of, 107.  
—, ammonium resinate for sizing of, 107.  
—, amyl alcohol for level dyeing of, 104.  
—, aniline for polymerizing, 248.  
—, aniline acetate as solvent for, 68.  
—, anthracene as plastifier for, 64.  
—, anthranilic acid as solvent for, 68.  
—, anthrapyridone series for dyeing, 141.  
—, aralkyl amines in lacquer of, 155.  
—, aryl-amines in lacquer of, 155.  
—, ash in, determination of, 2650.  
—, auramine for treating, 275.  
—, azo series for dyeing, 141.  
—, barium oleate and for varnish, 249.  
—, barium resinate and for varnish, 249.  
—, basic, mfr. of, 210.

- Cellulose ether, benzal chloride as plastifier for, 64.
- , benzamide as solvent for, 68.
- , benzene for swelling, 104.
- , benzene solvent of, 244.
- , benzine-non-solvent, 244.
- , benzoic acid as solvent for, 68.
- , benzyl acetone as solvent for, 68.
- , benzyl alcohol as plastifier for, 64, 243.
- , benzylamine in mfr. of, 250.
- , benzylaniline and for lacquer mfr., 2416.
- , benzylchloride as plastifier for, 64.
- , biguanides and for lacquer mfr., 2416.
- , binding agent of, formation, 291.
- , biophane waterproofed by, 139.
- , block, molded, made using, 162.
- , borneol acetates solvent for, 163.
- , borneol butyrates solvent for, 163.
- , borneol formates solvent for, 163.
- , borneol phthalates solvent for, 163.
- , borneol plasticizer for, 243.
- , borneol salicylates solvent for, 163.
- , brilliantine waterproofed by, 139.
- , brocade effect on, 263.
- , *b*-brombenzaldehyde solvent for, 267.
- , brush made using, 254.
- , butyl alcohol for level dyeing of, 104.
- , *iso*-butyl glycollates plasticizer for, 169.
- , *n*-butyl glycollates plasticizer for, 169.
- , *iso*-butyl phthalate plasticizer for, 243.
- , *iso*-butyl thioglycollates plasticizer for, 169.
- , *n*-butyl thioglycollates plasticizer for, 169.
- , calcium chloride precipitant for, 191.
- , calcium citrate for reducing inflammability of, 92.
- , calcium naphthenate for sizing of, 107.
- Cellulose ether, calcium oleate and for varnish, 249.
- , calcium phosphate for reducing inflammability of, 92.
- , calcium resinate and for varnish, 249.
- , calcium resinate for sizing of, 107.
- , calcium sulfate for reducing inflammability of, 92.
- , calcium tartrate for reducing inflammability of, 92.
- , calendaring, 213.
- , carbazole and for lacquer mfr., 2416.
- , carbon bisulfide in mfr. of, 250.
- , carbon bisulfide solvent for, 1797.
- , carbonizing, 105.
- , casein plastic of, 96, 97, 127.
- , celloglass waterproofed by, 139.
- , cellophane waterproofed by, 139.
- , cellulose, hydrated, waterproofed by, 139.
- , cellulose acetate coated with, 141.
- , cellulose esters with, 48.
- , cement of, 100.
- , ceramic filled with, 260.
- , chlorocyclohexane solvent for, 267.
- , 1-chlor-2,6-dinitrobenzenesulfonic acid for dyeing, 145.
- , chlorethylamine in mfr. of, 231.
- , chlorethyl-diethylamine in mfr. of, 231.
- , chlorethylaniline in mfr. of, 231.
- , 1-chlor-4-nitrobenzene-2-sulfonic acid for dyeing, 145.
- , chloroform solvent of, 244, 1813.
- , chlorpropylamine in mfr. of, 231.
- , chromium after treatment of, 62.
- , chromium acetate mordanted with, 104.
- , chromium salts for weighting, 227.
- , cigarette tip containing, 2432.
- , citric acid for treating, 275.
- , clarifying, 182.
- , —, charcoal for, 1465.
- , —, Diatomite for, 1465.
- , —, Fullers Earth for, 1465.
- , clarity, calcium chloride for increasing, 1366.
- , —, increasing, 1366.

- Cellulose ether, clarity, phosphorous oxychloride for increasing, 1366.
- , —, sulfur oxychloride for increasing, 1366.
- , —, zinc chloride for increasing, 1366.
- , cloth, tracing, made using, 2542.
- , coagulating, 226, 262, 263.
- , coagulating bath for, 2085.
- , coagulation, preventing, 288.
- , coating of, 175, 201.
- , —, metallic, for, 2443.
- , conductor, electric, containing, 2442.
- , copal and as varnish, 246.
- , copper after treatment, 62.
- , crepe effect on, 263, 2640, 2644.
- , crepe effects, 61.
- , cutting, 104, 179.
- , cyclohexanone glycerol plasticizer for, 97.
- , cyclo-hexylamine in lacquer of, 155.
- , cyanohydric acid halide in mfr. of, 250.
- , cyanuric bromide in mfr. of, 250.
- , cyanuric chloride in mfr. of, 250.
- , damask effect on, 107, 2340.
- , damask effect, permanent, produced with, 2340.
- , dammar size for, 107.
- , decolorizing, 67.
- , dehydrating, 100, 1834.
- , delustring, 133, 175, 176, 185, 198, 210, 213, 217, 220, 221, 228, 229, 260, 261, 266, 270, 271, 273, 274, 283, 304, 2169, 2191.
- , —, preventing, 133.
- , —, urea for, 198.
- , delustring with, 285.
- , dental plate made using, 2538.
- , depolarization, 1325, 1326.
- , depolymerizing, 117.
- , diarylamine series for dyeing, 141.
- , diazotypes made using, 2534.
- , dibenzylaniline and for lacquer mfr., 2416.
- , dichlorethylene for level dyeing of, 104.
- , dichlormaleic acid hydrazide bromide in mfr. of, 250.
- , dichlormaleic acid hydrazide chloride in mfr. of, 250.
- Cellulose ether, dichlorphthalazine bromide in mfr. of, 250.
- , dichlorphthalazine chloride in mfr. of, 250.
- , dichlorquinazoline bromide in mfr. of, 250.
- , dichlorquinazoline chloride in mfr. of, 250.
- , dicyclo-hexylamine in lacquer of, 155.
- , dielectric character, 1343.
- , dielectric film of, 1343.
- , diethanolamine in lacquer of, 155.
- , *as*-diethylenediamine in mfr. of, 250.
- , diethylenedioxide solvent of, 244.
- , diethyl zinc incorporated with, 272.
- , dihydroxybehenic acid-pentaerythrite condensate with, 303.
- , dihydroxystearic acid-pentaerythrite condensate with, 303.
- , 1,4-dimethoxy-anthraquinone-1,4-dithioldimethyl ether in dyeing 243.
- , 1,4-dimethoxy-anthraquinone in dyeing, 243.
- , dimethylbutadiene and as plastic, 254.
- , N,N'-dimethyl-indigo for dyeing, 201.
- , o,o'-dimethylol-*p*-cresol as plasticifier for, 67.
- , diphenylamine as solvent for, 68.
- , discharge effect on, producing, 175, 218, 2638.
- , discharges on, producing, 184.
- , dispersion of, 171, 234.
- , dissolving, 172, 1303.
- , —, apparatus for, 41.
- , dividing, 179.
- , dramatine waterproofed by, 139.
- , dry-spinning of, 204.
- , duty on, 147.
- , dye carrying medium, 47.
- , dyed, decolorizing, 2319.
- , —, discharging, 156.
- , dyeing, 62, 65, 103, 111, 112, 113, 115, 121, 127, 131, 134, 135, 137, 138, 139, 141, 142, 143, 155, 159, 164, 165, 171, 179, 180, 197, 198, 201, 207, 210, 216, 217, 219, 220, 227, 228, 229, 235, 238, 239, 240, 242, 243, 245, 253, 262, 264, 265, 267, 268, 271, 275, 276, 277, 281,

- 284, 285, 297, 298, 299, 304, 305,  
1584, 2221, 2223, 2633, 2642.
- Cellulose ether, dyeing, aqueous  
dispersions for, 180.
- , —, assistants for, 2222.
- , —, azo dye for, 117.
- , —, black, 179.
- , —, disazo dye for, 114, 120.
- , —, dispersing agent for, 181.
- , —, enhancing receptivity, 115,  
116.
- , —, fugitive, 160.
- , —, green, 161.
- , —, increasing affinity for, 101.
- , —, intermittently, 221.
- , —, monoazo dye for, 113, 120.
- , —, wetting agent for, 181.
- , —, dyeing textiles of, 2243.
- , —, dyeing water-soluble, 156.
- , —, electrical discharge in, reducing,  
215.
- , —, electric discharge of, reducing,  
256.
- , —, electric disruption, 1343.
- , —, electric disruptive strength re-  
sistance of, 125.
- , —, electrodepositing rubber with,  
128.
- , —, electrodeposition of, 102, 128,  
1376.
- , —, embossing on, 271.
- , —, emulsifier, 119.
- , —, emulsifying, 117, 237.
- , —, emulsions, 214.
- , —, aqueous, 2452.
- , —, mfr. of, 214.
- , —, emulsions made with, 86, 234.
- , —, enamel of, mfr., 249, 294.
- , —, epichlorhydrin treated, 132.
- , —, erythrene and as plastic, 254.
- , —, esterifying, 299.
- , —, etherifying, 1434.
- , —, ether non-solvent of, 244.
- , —, ethyl alcohol for level dyeing  
of, 104.
- , —, ethyl alcohol non-solvent of,  
244.
- , —, ethylamine in lacquer of, 155.
- , —, ethyl aminobenzoate and for  
lacquer mfr., 2416.
- , —, ethyl *a*-brompropionate solvent  
for, 267.
- , —, ethyl chlorcarbonate solvent for,  
267.
- , —, *N*-ethylcarbazole and for lac-  
quer mfr., 2416.
- Cellulose ether, ethylene chlorhy-  
drin treated, 132.
- , —, ethylene dichloride for level  
dyeing of, 104.
- , —, ethylene glycol plasticizer for,  
302.
- , —, ethyl monochloracetate in mfr.  
of, 250.
- , —, fabric, pile, 2358.
- , —, printing on, 263.
- , —, fabric cemented by, 209.
- , —, fabric repaired by, 165.
- , —, fenchol plasticizer for, 243.
- , —, fiber made with, 199.
- , —, fibrous, mfr., 187, 305, 1465.
- , —, filament, conditioning, 303.
- , —, drawing, 2090.
- , —, fine denier, mfr. of, 2095.
- , —, spinning, 2106.
- , —, —, dry, 2087, 2096, 2098,  
2101, 2102, 2104, 2110, 2114, 2124,  
2127.
- , —, filament from, mfr., 1442, 2070.
- , —, film, 103, 126, 199, 240, 1379,  
2509, 2514, 2524, 2529.
- , —, dielectric, mfr., 127.
- , —, laminated, made using, 2599.
- , —, filtering, 181, 2073.
- , —, apparatus for, 41.
- , —, finishing, 2354.
- , —, fireproofing, 135, 2129.
- , —, flameproofing, 2129.
- , —, flexilizing, 2354.
- , —, flexoloid waterproofed by, 139.
- , —, formic acid mordanted with, 104.
- , —, formic acid solvent for, 1891.
- , —, furfuraldehyde mordanted with,  
104.
- , —, furfural mordanted with, 104.
- , —, gelatin plastic with, 127.
- , —, glass coated using, 2417.
- , —, glass laminant, 260.
- , —, glassolyn waterproofed by, 139.
- , —, glass united by, 178.
- , —, glyceryl benzoylbenzoate com-  
bined with, 202.
- , —, glyceryl trilactate combined  
with, 202.
- , —, graphite combined with, 2543.
- , —, halogen-containing, mfr. of,  
273, 274.
- , —, hardness of, 1303.
- , —, heat resistance, increasing, 2162.
- , —, hexachlorethane plastic for, 294.
- , —, hexahydroxystearic acid-pent-  
aerythrite condensate with, 303.



- Cellulose ether, hexamethylene-tetramine and, 151.  
—, hollow bodies from, 2630.  
—, hosiery of, 104.  
—, hydrochloric acid for reducing viscosity of, 201.  
—, hygroscopicity of, 1303.  
—, ice color on, 253.  
—, identifying, 303.  
—, inflammability, reducing, 43, 132, 179, 182, 1055.  
—, ink made using, 2474, 2475, 2547.  
—, ink, lithographic, containing, 236.  
—, insulating power, 1302, 1303.  
—, iodobenzene solvent for, 267, 1826.  
—, iron chloride mordanted with, 104.  
—, iron(ic) ferrocyanide for coloring of, 129.  
—, ironing, 213.  
—, —, improving properties of, 176.  
—, —, resistance to, increasing, 270.  
—, iron temperature, raising, 2631.  
—, iron salts for weighting, 227.  
—, isoborneol acetates solvent for, 163.  
—, isoborneol butyrates solvent for, 163.  
—, isoborneol formates solvent for, 163.  
—, isoborneol phthalates solvent for, 163.  
—, isoborneol plasticizer for, 243.  
—, isoborneol salicylates solvent for, 163.  
—, isoprene and as plastic, 254.  
—, jelling, preventing, 162, 1349.  
—, lacquer containing, 185, 1590.  
—, lacquer, dyeing, 131.  
—, lacquer of oxyn and, 2408.  
—, lake produced in, 166.  
—, laminated, 136.  
—, lard size for, 107.  
—, latex, rubber, combined with, 2543.  
—, leather cloth coated with, 245.  
—, leather coated with, 245.  
—, light frequency, 1371.  
—, light permanency of, 146.  
—, linseed oil and, 151.  
—, livering, preventing, 162, 1349.  
—, lubricating, 303, 2231.  
—, luminescent, mfr. of, 134.  
Cellulose ether, luminous substance on, producing, 272.  
—, luster, increasing, 2166.  
—, —, modifying, 2166.  
—, —, reducing, 181.  
—, magnesium dihydrogen-o-an-timonate for reducing inflammability of, 92.  
—, magnesium lactate as stabilizer for, 132.  
—, magnesium naphthenate for sizing of, 107.  
—, magnesium oleate and for varnish, 249.  
—, magnesium oleate size for, 107.  
—, magnesium resinate and for varnish, 249.  
—, magnesium resinate for sizing of, 107.  
—, malachite green for treating, 275.  
—, mfr. of, 16, 98, 130, 155, 187, 190, 247, 293, 297, 432, 2627.  
—, —, apparatus for, 97.  
—, —, continuous, 1458, 1615.  
—, mastic size for, 107.  
—, matt effect on, 175.  
—, —, producing, 243.  
—, metal coated, mfr., 248.  
—, metal filled with, 260.  
—, metallic effect on, producing, 141, 163.  
—, methoxyl diacetyl-o.o'-dimethyl-*p*-cresol-*p*-toluenesulfonate as plastifier for, 67.  
—, methyl alcohol for level dyeing of, 104.  
—, methyl alcohol non-solvent of, 244.  
—, methyl aminobenzoate and for lacquer mfr., 2416.  
—, methyl anisate solvent for, 267.  
—, methyl-*m*-brombenzoate solvent for, 267.  
—, methylethylketone-glycerol plasticizer for, 97.  
—, methyl glycollates plasticizer for, 169.  
—, methyl-naphthalene as plastifier for, 64.  
—, methyl thioglycollates plasticizer for, 169.  
—, methyl-*p*-toluenesulfonate as plastifier for, 64.  
—, methylzinc ethylate incorporated with, 272.

- Cellulose ether, methylzinc methylate incorporated with, 272.
- , mixed, mfr. of, 15, 1605, 2646.
  - , moire effect on, 105, 111.
  - , moisture in, determination of, 2650.
  - , molded articles from, 43.
  - , molecular shape of, 159.
  - , molecular size, 1366.
  - , molecules, form of, 1318.
  - , monobutylin-benzoylbenzoate and as varnish, 202.
  - , monobutylin-dilactate and as varnish, 202.
  - , monobutylin-oxalate and as varnish, 202.
  - , monobutylin-phthalate and as varnish, 202.
  - , monobutylin-pyruvate and as varnish, 202.
  - , monobutylin-salicylate and as varnish, 202.
  - , monobutylin-tartrate and as varnish, 202.
  - ,  $\alpha$ -monochlorhydrin treated, 132.
  - , monoethylin-benzoylbenzoate and as varnish, 202.
  - , monoethylin-benzoylbenzoate combined with, 202.
  - , monoethylin-dilactate and as varnish, 202.
  - , monoethylin-oxalate and as varnish, 202.
  - , monoethylin-phthalate and as varnish, 202.
  - , monoethylin-pyruvate and as varnish, 202.
  - , monoethylin-salicylate and as varnish, 202.
  - , monoethylin-tartrate and as varnish, 202.
  - , monohydroxystearic acid pentaerythrite condensate with, 303.
  - , moniodobenzene solvent of, 1826.
  - , monomethylin-benzoylbenzoate and as varnish, 202.
  - , monomethylin-dilactate and as varnish, 202.
  - , monomethylin-oxalate and as varnish, 202.
  - , monomethylin-phthalate and as varnish, 202.
  - , monomethylin-pyruvate and as varnish, 202.
  - , monomethylin-salicylate and as varnish, 202.
- Cellulose ether, monomethylin-tartrate and as varnish, 202.
- , monopropylin-benzoylbenzoate and as varnish, 202.
  - , monopropylin-dilactate and as varnish, 202.
  - , monopropylin-oxalate and as varnish, 202.
  - , monopropylin-phthalate and as varnish, 202.
  - , monopropylin-pyruvate and as varnish, 202.
  - , monopropylin-salicylate and as varnish, 202.
  - , monopropylin-tartrate and as varnish, 202.
  - , mordanting, 142, 143, 144, 180, 216, 218, 226.
  - , multi-color screen for, 277.
  - , naphthalene as plastifier for, 64.
  - ,  $\alpha$ -naphthylamine in dyeing of, 67.
  - ,  $b$ -naphthylguanide and for lacquer mfr., 2416.
  - , napkin waterproofed by, 209.
  - , negative diazotypes made using, 2534.
  - , neutrality, 1302.
  - , nitrated, 164, 269.
  - , —, stencil sheet made using, 2495.
  - , nitrile group in, mfr. of, 273.
  - , 2-nitro-1-aminobenzene-4-sulfamide in dyeing of, 67.
  - , nitrodiarylmethane series for dyeing, 141.
  - , nitrogen containing, mfr., 207, 272, 273, 274.
  - , non-inflammability of, 1303.
  - , oleic acid treated with, 106.
  - , opacity, producing, on, 210.
  - , ornamentation, 108.
  - , oxalic acid esters as plastifier for, 64.
  - , paint containing, 2544.
  - , palmitic acid treated with, 106.
  - , paper sized by, 235.
  - , parting, 179.
  - , pattern effect on, producing, 175, 264.
  - , patterns on, mfr. of, 186.
  - , pentachlorethane solvent for, 1818.
  - , pentaerythrite-dihydroxybenic acid condensate with, 303.
  - , pentaerythrite-dihydroxystearic acid condensate with, 303.

- Cellulose ether, pentaerythrite-hexahydroxy stearic acid condensate with, 303.  
—, pentaerythrite-mono-hydroxy stearic acid condensate with, 303.  
—, pentaerythrite-tetrahydroxy stearic acid condensate with, 303.  
—, pentaerythrite-trihydroxy-stearic acid condensate with, 303.  
—, perchlorethylene for level dyeing of, 104.  
—, perforating, 179.  
—, permanency, 1302.  
—, phenanthrene as plastifier for, 64.  
—, phenol mordanted with, 104.  
—, phenoxyl phosphoric acid for polymerizing, 248.  
—, phenyl benzoate as solvent for, 68.  
—, phosphine chloride for polymerizing, 248.  
—, phosphine diethylaminochloride for polymerizing, 248.  
—, phosphine phenylchloride for polymerizing, 248.  
—, phosphorescent, mfr. of, 134.  
—, phosphorescent substance on, producing, 272.  
—, phosphorous oxychloride for polymerizing, 248.  
—, phosphorous oxychloride treatment of, 115.  
—, phosphorous pentachloride treatment of, 115.  
—, phosphorous sulfochloride for polymerizing, 248.  
—, phosphorous trichloride treatment of, 115.  
—, photographic screen for, 300.  
—, pigmentation of, 2476.  
—, pigment in, producing, 300.  
—, piperazine in mfr. of, 250.  
—, piperidine in lacquer of, 155.  
—, plastic, mfr. of, 152, 162, 276.  
—, —, non-conducting, 100.  
—, plasticizer for, 118.  
—, playing card containing, 203.  
—, polymerizing, 248.  
—, potassium naphthenate for sizing of, 107.  
—, potassium resinate for sizing of, 107.  
—, potassium thiocyanate for treating, 275.  
—, precipitating, 49, 63, 68, 169, 170, 199, 200, 1457.  
Cellulose ether, precipitating, method of, 2646.  
—, —, preventing, 1349.  
—, —, urea for, 64.  
—, printing on, 102, 121, 141, 171, 251, 254, 271, 292, 2278.  
—, —, ink for, 2330.  
—, printing ink containing, 2329.  
—, printing on fabric with, 140.  
—, printing with vat dye and, 208.  
—, properties, 1302.  
—, propionylacetone-glycerol plasticizer for, 97.  
—, propyl alcohol for level dyeing of, 104.  
—, propyl aminobenzoate and for lacquer mfr., 2416.  
—, iso-propyl bromide solvent for, 267.  
—, propyl glycolates plasticizer for, 169.  
—, propyl thioglycolates plasticizer for, 169.  
—, purifying, 10, 50, 100, 102, 131, 1446, 1460.  
—, —, acetic acid for, 102.  
—, —, acid for, 102.  
—, —, nitric acid for, 96, 102.  
—, —, hydrochloric acid for, 102.  
—, —, phosphoric acid for, 102.  
—, —, sulfuric acid for, 102.  
—, pyridine for polymerizing, 248.  
—, pyridine in lacquer of, 155.  
—, pyridine mordanted with, 104.  
—, quinoline for polymerizing, 248.  
—, quinoline in lacquer of, 155.  
—, radio-active, mfr., 277.  
—, record, phonograph, made using, 162, 2605.  
—, relustring, 218, 220.  
—, resin, synthetic, and, 151.  
—, —, —, combined with, 132.  
—, resinous condensate with, 200.  
—, resins combined with, 58, 202.  
—, resistivity of, 1303.  
—, Roentgen ray investigations, 2095.  
—, rosin combined with, 58.  
—, rubber and as plastic, 254.  
—, rubber coated with, 245.  
—, rubber combined with, 2409, 2542.  
—, rubber emulsion with, 128.  
—, rubberized thread made using, 258.  
—, scratch patterns, producing, 2342.

- Cellulose ether, screen, fluorescent, made using, 2541.
- , sheets, coating, 296.
  - , silk woven with, 259.
  - , silver coating, 296.
  - , sizing, 106, 107, 274, 2359.
  - , smaline waterproofed by, 139.
  - , sodium dibutyl-naphthalenesulfonate with, 192, 193.
  - , sodium naphthenate for sizing of, 107.
  - , sodium oleate treated with, 106.
  - , sodium palmitate treated with, 106.
  - , sodium resinate for sizing of, 107.
  - , sodium stearate treated with, 106.
  - , sodium sulfobenzenericinoleate treated with, 106.
  - , sodium sulfobenzene-stearate treated with, 106.
  - , sodium sulfonaphthalenericinoleate treated with, 106.
  - , sodium sulfonaphthalene-stearate treated with, 106.
  - , sodium sulfophenolricinoleate treated with, 106.
  - , softener for, 80, 234, 303, 2214.
  - , solubility, 8, 1773.
  - , —, increasing, 118, 172, 177.
  - , —, modifying, 24.
  - , solution, gases removed from, 2073.
  - , solvent for, 108, 115, 307, 1302, 2100.
  - , spectrographic properties, 1370.
  - , spinning, 191, 204, 305, 2072, 2073.
  - , —, apparatus for, 206.
  - , —, stretch, 2079.
  - , sponge, artificial, made using, 2536.
  - , stability of, 15, 1301, 1302, 1366, 2441.
  - , —, aluminum oxide for, 1366.
  - , —, *p*-aminobenzoic acid for, 1366.
  - , —, dehydrothiotoluidine for, 1366.
  - , —, diphenylsulfoxide for, 1366.
  - , —, disulfoxides for, 1366.
  - , —, increasing, 1366.
  - , —, lead oxide for, 1366.
  - , —, mercaptobenzothiazole for, 1366.
- Cellulose ether, stability of, 5-methylmercaptobenzothiazole for, 1366.
- , —, sulfoxides for, 1366.
  - , —, thiazoles for, 1366.
  - , —, white lead for, 1366.
  - , —, zinc oxide for, 1366.
  - , stamping out, 104.
  - , staple fiber, mfr., 220.
  - , stearic acid treated with, 106.
  - , stencil sheet made using, 2492.
  - , stocking of, 104.
  - , strength of, 1342.
  - , —, increasing, 176.
  - , strengthening, 255, 1378.
  - , stretch-spinning, 191.
  - , strontium oleate and for varnish, 249.
  - , strontium resinate and for varnish, 249.
  - , sulfobenzenericinoleic acid treated with, 106.
  - , sulfobenzene-stearic acid treated with, 106.
  - , sulfonaphthalenericinoleic acid treated with, 106.
  - , sulfonaphthalene stearic acid treated with, 106.
  - , sulfones as softener for, 80.
  - , sulfophenolricinoleic acid treated with, 106.
  - , sulfur containing, mfr., 305.
  - , suppleness of, 1303.
  - , support of, 117.
  - , surface, dull, producing, 2407.
  - , suspensions made with, 86.
  - , swelling, 2214, 2221.
  - , —, acetic acid for, 264.
  - , —, acetone for, 264.
  - , —, calcium thiocyanate for, 264.
  - , —, ethyl alcohol for, 264.
  - , —, zinc chloride for, 264.
  - , tannin for weighting, 110.
  - , tar oils as plastifier for, 64.
  - , tearing of, 1342.
  - , terpene plasticizer for, 243.
  - , terpineol acetates solvent for, 163.
  - , terpineol butyrates solvent for, 163.
  - , terpineol formates solvent for, 163.
  - , terpineol phthalates solvent for, 163.
  - , terpineol salicylates solvent for, 163.

- Cellulose ether, tetrachloroacetanilid as plastifier for, 64.
- , tetrachlorethane as plastifier for, 64.
- , tetraethyl lead incorporated with, 272.
- , tetraethyl titanate incorporated with, 272.
- , *ar*-tetrahydronaphthol acetate softener for, 68.
- , tetrahydronaphthol ester softener for, 68.
- , tetrahydroxystearic acid pentaerythrite condensate with, 303.
- , theory, 1300.
- , thickener, barium carbonate as, 102.
- , —, barium sulfate as, 102.
- , —, calcium carbonate as, 102.
- , thickening agent, 239.
- , thiocyanates as solvents of, 1136.
- , thread sized by, 274.
- , tin (ous) chloride for treating, 275.
- , tin phosphates for weighting, 110.
- , tin salts for weighting, 227.
- , tin silicates for weighting, 110.
- , toluene for swelling, 104.
- , *p*-toluenesulfamid as plastifier for, 64.
- , *p*-toluenesulfonchloramide for dyeing, 137.
- , *m*-toluidine in dyeing of, 67.
- , toughness of, 1303.
- , towel waterproofed by, 209.
- , tragacanth for producing matt effect on, 243.
- , tribenzylamine as solvent for, 68.
- , tribrompyrimidine bromide in mfr. of, 250.
- , tribrompyrimidine chloride in mfr. of, 250.
- , trichlorethylene for level dyeing of, 104.
- , trichloride for polymerizing, 248.
- , tricresyl phosphate for reducing inflammability of, 92.
- , triethanolamine in lacquer of, 155.
- , trihydroxystearic acid-pentaerythrite condensate with, 303.
- Cellulose ether, 1,4,8-trimethoxyanthraquinone-1,4-dithioldimethyl ether in dyeing, 243.
- , 1,4,8-trimethoxyanthraquinone in dyeing, 243.
- , trimming, 179.
- , triphenylguanidine and for lacquer mfr., 2416.
- , triphenylmethane bases in lacquer of, 155.
- , triphenyl phosphate as plastifier for, 64.
- , tripropionin solvent for, 267.
- , tube of, mfr., 254.
- , tungsten phosphates for weighting, 110.
- , tungsten silicates for weighting, 110.
- , urea and, 151.
- , urea as stabilizer for, 132.
- , urea-formaldehyde condensates plastic with, 117.
- , urea for producing matt effect on, 243.
- , uses, 2635.
- , varnish, mfr. of, 135, 202, 249.
- , velvet from, 2342.
- , viscosity, 1774, 1779, 2404.
- , —, lowering, ozone for, 1037.
- , —, reducing, 162, 201, 227, 300, 1357, 1358, 1560, 1616, 2090.
- , —, —, acetic acid for, 1360, 1363.
- , —, —, acid for, 1359.
- , —, —, alkali for, 1363.
- , —, —, aniline for, 1363.
- , —, —, aluminum chloride for, 1365.
- , —, —, copper for, 1365.
- , —, —, diethylaminophosphine chloride for, 1363.
- , —, —, ethyl alcohol for, 53.
- , —, —, heat for, 1360, 1364.
- , —, —, hydrochloric acid for, 1362.
- , —, —, incubation for, 1360.
- , —, —, magnesium oleate for, 1365.
- , —, —, nitric acid for, 1361, 1363.
- , —, —, oxalic acid for, 1362.
- , —, —, ozone for, 1363.
- , —, —, phosphoric acid for, 1362.
- , —, —, phosphorous oxychloride for, 1363.
- , —, —, phosphorous pentachloride for, 1363.
- , —, —, phosphorous sulfochloride for, 1363.

Cellulose ether, viscosity, reducing, pyridine for, 1363.

—, —, —, quinoline for, 1363.

—, —, —, resinate for, 1365.

—, —, —, sodium acid sulfate for, 1360.

—, —, —, solvent evaporation, 1363, 1365.

—, —, —, sulfate for, 1365.

—, —, —, sulfuric acid for, 1362.

—, —, —, triethanolamine for, 1365.

—, —, —, water for, 1364.

—, —, —, zinc for, 1365.

—, —, —, zinc chloride for, 1362.

—, —, variation of, 53.

—, viscosity in, determination of, 2651.

—, viscosity reduction, 1357.

—, warp print effect on, 171.

—, washcloth waterproofed by, 209.

—, water-insoluble, mfr., 191, 291.

—, —, purifying, 191.

—, waterproofing, 217, 218, 2157, 2636.

—, —, rubber for, 135.

—, water-resistance of, increasing, 278.

—, water-sensitivity, 1334.

—, water solubility, 1343.

—, —, decreasing, 118.

—, water-soluble, 242, 1666, 1668.

—, —, dispersing, 2416.

—, —, dyeing, 156.

—, —, mfr., 1423, 1424.

—, —, properties of, 15.

—, water-unsensitive, mfr., 287.

—, weaving, 2358.

—, weighting, 63, 173, 180, 216, 218, 226, 227, 229, 270.

—, —, tannin for, 105.

—, —, tin(ic) chloride for, 105.

—, wetting, 172, 2206.

—, —, 1,4-dioxane for, 118.

—, wood filled with, 260.

—, wood pulp waterproofed by, 209.

—, xanthates of, 2628.

—, xylene for swelling, 104.

—, xylyl chloride as plastifier for, 64.

—, *p*-xylylene chloride as plastifier for, 64.

—, zinc ethylate incorporated with, 272.

—, zinc naphthenate for sizing of, 107.

—, zinc oxide combined with, 2543.

Cellulose ether, zinc phosphates for weighting, 110.

—, zinc resinate for sizing of, 107.

—, zinc silicates for weighting, 110.

—, zinc stearate with as lacquer, 192.

Cellulose ether adherence, increasing, 225.

Cellulose ether emulsion, mfr., 223.

Cellulose ether enamel, mfr., 223.

Cellulose ether-ester, 1248.

—, applications, 1668.

—, glass, laminated, made using, 2591.

—, mfr. of, 69, 114, 122, 150, 190, 242, 277, 1434.

—, plastic made from, 2556.

—, stencil sheet made using, 2495.

Cellulose ether filament, acetone (hydrous) in mfr. of, 226.

—, conditioning, 2645.

Cellulose ether film, electricity (static) in, preventing, 276.

Cellulose ether formate, mfr. of, 257.

Cellulose ether lactate, 172.

Cellulose ether luster, preserving, 219.

Cellulose ether nitrate, 1671.

—, mfr. of, 269.

Cellulose ether phosphate, 1671.

Cellulose ether pigmenting, 2645.

Cellulose ether plastic, colored, 151.

Cellulose ether plasticizers, 1788.

Cellulose ether silicate, 1671.

Cellulose ether solubility, determination of, 2651.

Cellulose ether solvents, 93.

Celluloses ethoxyacetate, 1694.

Cellulose ethylene oxide, water insoluble, mfr., 1392.

*Cellulose ethyl ether, see Ethyl-cellulose.*

Cellulose ethylphenylurethane, 91.

Cellulose ethyl-thiourethane, mfr., 1642.

Cellulose ethyltolylurethane, 91.

Cellulose ethyl urethane, mfr. of, 91.

Cellulose ethylxylyl urethane, 91.

Cellulose formate, 381, 1689, 1749, 1911, 2032, 2390.

—, acetone, solubility, 1345.

—, alcohol, solubility, 1345.

—, ammonium nitrate, solvent for, 1799.

- Cellulose formate, amyl acetate as precipitant of, 387.  
—, amyl nitrite for bleaching, 1014.  
—, analysis, 914.  
—, balata plastic of, with, 87.  
—, benzene, solubility, 1345.  
—, benzine, solubility, 1345.  
—, bleaching, 1014.  
—, borneol plastifier for, 352.  
—, 4-brom-2-nitro-diphenylamine for dyeing, 750.  
—, 4-brom-2'-nitro-diphenylamine for dyeing, 750.  
—, 4-brom-2-nitro-4'-methoxy-diphenylamine for dyeing, 750.  
—, camphor plastic of, with, 87.  
—, cellulose esterified using, 278.  
—, 4-chlor-2-nitro-4-acetamido-diphenylamine for dyeing, 750.  
—, 4-chlor-2'-nitro-diphenylamine for dyeing, 750.  
—, 4-chlor-2-nitro-4'-ethoxy-diphenylamine for dyeing, 750.  
—, 4-chlor-2-nitro-3'-methyl-diphenylamine for dyeing, 750.  
—, copper(ic) chloride solvent for, 1799.  
—, delustred, restoring luster, 135.  
—, delustring, 774.  
—, dyeing, 87, 413, 607, 934.  
—, ether, solubility, 1345.  
—, ether as precipitant of, 387.  
—, etherifying, 1434.  
—, ethyl acetate, solubility, 1345.  
—, ethyl nitrite for bleaching, 1014.  
—, fabric, dyeing, 637.  
—, —, printing, 637, 2328.  
—, —, stencilling, 637.  
—, filament mfr., 695, 696, 2071.  
—, film of, 886, 2506, 2528.  
—, formic acid solvent for, 1891.  
—, guanidine nitrite for bleaching, 1014.  
—, hydrolyzing, 1014.  
—, isoborneol plastifier, 352.  
—, isoprene polymers as plasticizer for, 429.  
—, lactic acid as solvent of, 442.  
—, lactic acid plastic with, 387.  
—, mfr. of, 361, 362, 386, 389, 640, 641, 642, 695, 700, 904, 928, 1017, 1039, 1044.  
—, methyl formate solvent for, 396.  
—, naphthalene plastic of, with, 87.  
—, 2-nitro-4'-acetamido-diphenylamine for dyeing, 750.  
Cellulose formate, 2-nitro-diphenylamine for dyeing, 750.  
—, 2-nitro-4'-ethoxy-4-methyl-diphenylamine for dyeing, 750.  
—, nitrogen dioxide for bleaching, 1014.  
—, nitrogen tetroxide for bleaching, 1014.  
—, 2-nitro-4-methyl-diphenylamine for dyeing, 750.  
—, nitrous acid for bleaching, 1014.  
—, oleates, plastic of, with, 87.  
—, paraffin, plastic of, with, 87.  
—, plastic of, mfr., 442, 2559.  
—, potassium bichromate, solvent for, 1799.  
—, potassium bromide, solvent for, 1799.  
—, potassium iodide, solvent for, 1799.  
—, precipitant for, 386.  
—, properties, 700.  
—, resinates, plastic of, with, 87.  
—, rubber, plastic of with, 87.  
—, saponifying, 744, 747.  
—, sodium bromide solvent for, 1799.  
—, sodium iodide, solvent for, 1799.  
—, solution, mfr., 463.  
—, solvent for, 1982.  
—, spinning solutions of, 259.  
—, stencil sheet made using, 2491.  
—, stereotype of, 404.  
—, treatment of, 543.  
—, warp effects on, mfr., 765.  
—, water, solubility, 1345.  
—, waterproofing, 2158.  
—, wax plastic of, with, 87.  
—, *see also* Cellulose, *formylation*.  
Cellulose formate-phosphate, etherification of, 12.  
Cellulose formo-butyrate, mfr., 823.  
Cellulose formo-propionate, mfr., 823.  
Cellulose formylacetate, 1687.  
—, saponifying, 832.  
Cellulose formyl acrylate, mfr., 986.  
Cellulose formyl adipate, mfr., 986.  
Cellulose formylbutyrate, 1701.  
Cellulose formylcinnamate, mfr., 986.  
Cellulose formyl glutarate, mfr., 986.  
Cellulose formyl glycerate, mfr., 986, 1738.  
Cellulose formyl-glycollate, mfr. of, 187.

- Cellulose formyl-hydracrylate, mfr. of, 187.  
 Cellulose formyl-lactate, 187, 986, 1699, 1738.  
 Cellulose formyl-levulinate, mfr., 1738.  
 Cellulose formylmalate, mfr., 1738.  
 Cellulose formyl maleate, mfr., 986.  
 Cellulose formyl malonate, mfr., 986.  
 Cellulose formyl oxalate, mfr., 986, 1738.  
 Cellulose formyl phenylglycollate, mfr., 986.  
 Cellulose formyl phosphate, 1687.  
 Cellulose formyl pyruvate, mfr., 986, 1738.  
 Cellulose formyl salicylate, mfr., 986.  
 Cellulose formyl succinate, mfr., 986.  
 Cellulose formyl tartrate, mfr., 986, 1738.  
 Cellulose formyl *m*-toluate, mfr., 986.  
 Cellulose *furfurancarboxylate*, *see* Cellulose furoate.  
 Cellulose furoate, 1730.  
 —, mfr. of, 986, 1729, 1730.  
 —, properties, 1730.  
 Cellulose glycerate, sizing with, 2137.  
 Cellulose glycol, 60.  
 Cellulose glycol acetate, mfr., 532.  
 Cellulose glycol ether, 1380, 1390.  
 Cellulose glycol ether, mfr., 292, 532.  
 Cellulose glycollate, 88, 203, 1719, 1721, 1722, 1724, 1725, 1753, 2626.  
 —, ink, copying, stains removed by, 2552.  
 —, mfr. of, 56, 1722, 1725.  
 —, methylation of, 56.  
 —, nitrogen-containing ether from, mfr. of, 273.  
 —, pencil stains removed by, 2552.  
 —, ribbon, typewriter, stains removed by, 2552.  
 —, sizing with, 2137.  
 —, thionyl chloride for etherifying, 273.  
 Cellulose glycollate-lactate, mfr. of, 187.  
 Cellulose glycollic acid, 1671, 1719, 1720, 1721, 1723, 1753, 1754, 2626.  
 —, acetic acid coagulant of, 89.  
 Cellulose glycollic acid, cloth, book, from, 1724.  
 —, coagulation of, 89.  
 —, finishes, textile, from, 1724.  
 —, formaldehyde coagulant of, 89.  
 —, ink stains removed with, 281.  
 —, mfr. of, 187, 272, 823, 824, 992, 1725.  
 —, methylation of, 2627.  
 —, pencil stains removed with, 281.  
 —, printing, textile, from, 1724.  
 —, properties, 823.  
 —, sulfuric acid coagulant of, 89.  
 —, tannin coagulant of, 89.  
 Cellulose glycollic ether, mfr., 111.  
 Cellulose heptylate, mfr., 621, 942, 1702.  
 Cellulose hexa-acetate, heat of combustion, 1158.  
 Cellulose hexanoate, 1702, 2003.  
 Cellulose hexapalmitate, mfr., 550, 1706.  
 Cellulose hexastearate, mfr., 550.  
 Cellulose hydracrylate, 1724.  
 Cellulose hydracrylic acid, mfr. of, 187.  
 Cellulose hydrate, 323, 1108, 1540.  
 —, acetation, 477.  
 —, acid cellulose from, 87.  
 —, esterification, 477.  
 —, etherification of, 12, 13.  
 —, formylation of, 386.  
 —, hydrazones from, 1114.  
 —, nitration, 477.  
 —, plastic of, 129.  
 —, saccharification, 1108.  
 —, swelling minimizing, 668.  
 —, X-ray diagram of, 149.  
 Cellulose hydroacetate, cosmetic product produced with, 479.  
 —, edible product produced with, 479.  
 —, medicinal product produced with, 479.  
 —, salve-like product produced with, 479.  
 Cellulose hydroacetic acid, 1720.  
 Cellulose hydroxyacetate, 1647.  
 Cellulose hydroxyaliphatic acid, 1694.  
 Cellulose hydroxyalkyl ethers, cellulose acetate sized with, 983.  
 Cellulose hydroxybenzenesulfonate, 1686.  
 Cellulose *a*-hydroxy-isobutyrate, mfr., 1723.



- Cellulose hydroxyparaffin-mono  
carboxylic acid, acetic acid coag-  
ulant of, 89.  
—, coagulation of, 89.  
—, formaldehyde coagulant of, 89.  
—, sulfuric acid coagulant of, 89.  
—, tannin coagulant of, 89.  
Cellulose hydroxypropionate, 1699.  
Cellulose hydroxysuccinate, mfr.,  
1723.  
Cellulose hypogaete, 2003.  
—, mfr. of, 1702.  
Cellulose isatoate, mfr., 1731.  
Cellulose isocyanate, mfr., 446.  
Cellulose isonicotinate, mfr., 1731.  
Cellulose lactate, 56, 1699, 1722,  
1724.  
—, etherification of, 12.  
—, mfr. of, 799, 800, 1722.  
—, sizing with, 2137.  
Cellulose lactic acid, 1720, 1723,  
2627.  
—, acetic acid coagulant of, 89.  
—, cloth, book, from, 1724.  
—, coagulation of, 89.  
—, finishes, textiles, from, 1724.  
—, formaldehyde coagulant of, 89.  
—, mfr. of, 187.  
—, printing, textile, from, 1724.  
—, sulfuric acid coagulant of, 89.  
—, tannin coagulant of, 89.  
*Cellulose lactotartryl-acetate, see*  
*Cellulose acetolactyl-tartrate.*  
Cellulose laurate, 868, 1711, 1712,  
1715, 1716, 2354.  
—, acetone, solubility, 1345.  
—, adhesive made using, 1006.  
—, alcohol, solubility, 1345.  
—, benzene, solubility, 1345.  
—, benzine, solubility, 1345.  
—, boards of, mfr. of, 154.  
—, carbon bisulfide as solvent for,  
286.  
—, coating containing, 201.  
—, crayon made with, 237, 2540.  
—, delustring with, 286.  
—, dioxane solvent for, 1876.  
—, ether, solubility, 1345.  
—, ethyl acetate, solubility, 1345.  
—, gasoline absorbed by, 990.  
—, gasoline filter medium, 990.  
—, glass, laminated, made using,  
789, 1719, 2591.  
—, —, safety, for, 1719.  
—, lacquer, colored, containing,  
2425.  
—, liquids dried by, 1719.  
Cellulose laurate, mfr. of, 200, 232,  
648, 790, 878, 906, 1704, 1705,  
1711, 1716.  
—, matt effect produced by, 286.  
—, metal coated using, 790.  
—, molding, 790.  
—, paint, anti-rust, made using,  
790.  
—, plastic containing, 879, 983,  
2575.  
—, properties, 648.  
—, sealing wax made with, 237.  
—, sheets of, mfr. of, 154.  
—, stability, increasing, 1064.  
—, uses, 1717, 1718, 1719.  
—, water- solubility, 1345.  
—, wax, sealing, made using, 2540.  
—, wood coated using, 790.  
—, wood preserved with, 154.  
Cellulose laurate-phenylacetate,  
mfr., 1714.  
*Cellulose laurate-phosphate, see*  
*Cellulose phospholaurate.*  
Cellulose lauroacetate, mfr., 579,  
1704.  
Cellulose lauro-cyclohexanecarbo-  
xylate, 1714.  
Cellulose laurodinitrate, mfr., 879,  
1705.  
Cellulose lauroformate, mfr., 1044.  
Cellulose lauronoacetate, 1703.  
Cellulose lauro-myristate, mfr. of,  
122.  
Cellulose lauronaphthenate, mfr. of,  
200, 879, 1713.  
Cellulose lauronitrate, mfr., 1704.  
Cellulose lauro-phenylacetate, mfr.,  
1714.  
—, *see also Cellulose phenylaceto-*  
*laurate.*  
Cellulose laurophosphate, 1675,  
1711.  
Cellulose laurophthalate, mfr., 835.  
Cellulose laurylxanthate, 1718.  
Cellulose levulinate, solvent for,  
1068.  
Cellulose linoleate, mfr., 642, 643.  
Cellulose linolenate, mfr., 642.  
Cellulose malate, 1754.  
—, mfr, 1723, 1726.  
—, nitrogen containing ether from,  
mfr. of, 273.  
—, sizing with, 2137.  
—, solvent for, 1068.  
—, thionyl chloride for etherifying,  
273.  
Cellulose maleate, 1754.

- Cellulose maleate, cellulose acetate sized by, 933.
- , mfr. of, 985, 1040, 1726, 2314.
- , nitrogen containing ether from, mfr. of, 273.
- , sizing with, 2137, 2139.
- , solvent for, 1068.
- , thionyl chloride for etherifying, 273.
- , yarn sized by, 933.
- Cellulose malonate, 1754.
- , mfr., 1726.
- , nitrogen-containing ether from, mfr. of, 273.
- , thionyl chloride for etherifying, 273.
- Cellulose mandelate, sizing with, 2137.
- Cellulose margarate, spool coated with, 879.
- Cellulose methyle-oxalate, 1727.
- Cellulose methane esters, mfr., 1758.
- Cellulose methoxyacetate, 1693.
- Cellulose methylbenzoate, mfr., 2314.
- Cellulose methylcarbonate, mfr., 544.
- Cellulose methylene ether, see Methylenecellulose.*
- Cellulose methylmethylene ether, mfr., 1621.
- Cellulose methylphenylthiocarbamides, filter of, 2459.
- Cellulose methylphenylurethane, 91.
- Cellulose methylpyridinecarboxylate, mfr., 1731.
- Cellulose methylthiourethane, mfr. of, 90, 1642.
- Cellulose methyltolylurethane, 91.
- Cellulose methylurethane, film made using, 2508.
- Cellulose methylxylylurethane, 91.
- Cellulose monoacetate, 334, 974, 975.
- , cellulose laurate made from, 232.
- , cellulose phenylacetate made from, 232.
- , dyeing, 757.
- , filaments from, 200.
- , hydrolysis velocity of, 709.
- , mfr. of, 200, 315, 595, 757.
- , printing on, 757.
- Cellulose monoacetate-distearate, 1717.
- , lacquer containing, 2399.
- , metal coated using, 790.
- Cellulose monobenzoate, 1733.
- , mfr. of, 1734.
- , properties, 903.
- Cellulose monocaproate, 153.
- Cellulose monochloracetate, 834.
- , filaments from, 200.
- , mfr. of, 200, 784.
- Cellulose monoformate, see Cellulose formate.*
- Cellulose monohydrazine, 1684.
- Cellulose monolaurate, 153, 560, 648, 1705.
- , properties, 648.
- , solubility, 560.
- Cellulose monomargarate, 153.
- Cellulose monomethylene, 1621.
- Cellulose monomethylene ether, mfr., 301.
- Cellulose monomethylmonomethylene ether, esterifying, 301.
- , etherifying, 301.
- , mfr. of, 301.
- Cellulose mononitrate, properties, 903.
- Cellulose mononitrate-mononitrobenzoate, mfr., 1734.
- Cellulose mononitroacetate, mfr., 1029.
- Cellulose mononitrobenzoate, properties, 903.
- Cellulose monopalmitates, 153, 1707.
- , mfr. of, 560, 648.
- , properties, 648.
- , solubility, 560.
- Cellulose mono-*p*-toluenesulfonate, 1683, 1752.
- Cellulose monoxyalkylether, 1398.
- Cellulose myristate, mfr., 878.
- Cellulose myristoformate, mfr., 1044.
- Cellulose naphthenate, 681, 1706, 1712, 1719.
- , acetone, solubility, 1345.
- , alcohol, solubility, 1345.
- , benzene, solubility, 1345.
- , benzine, solubility, 1345.
- , ether, solubility, 1345.
- , ethyl acetate, solubility, 1345.
- , glass, laminated, made using, 2591.
- , lacquer containing, 2423.

- Cellulose naphthenate, mfr., 788, 980, 1065, 1707, 1711, 1716.  
 —, uses, 1718.  
 —, water, solubility, 1345.
- Cellulose naphthenate-laurate, acetone, solubility, 1345.  
 —, alcohol, solubility, 1345.  
 —, benzene, solubility, 1345.  
 —, benzine, solubility, 1345.  
 —, carbon bisulfide as solvent for, 286.  
 —, delustring with, 286.  
 —, ether, solubility, 1345.  
 —, ethyl acetate, solubility, 1345.  
 —, mfr. of, 790.  
 —, matt effect produced by, 286.  
 —, water, solubility, 1345.
- Cellulose naphthenateoleate, 238, 788, 1714.
- Cellulose naphthenate-oleate-laurate, 1091.  
 —, acetone, solubility, 1345.  
 —, alcohol, solubility, 1345.  
 —, benzene, solubility, 1345.  
 —, benzine, solubility, 1345.  
 —, ether, solubility, 1345.  
 —, ethyl acetate, solubility, 1345.  
 —, water, solubility, 1345.
- Cellulose naphtheneoleate, adhesive containing, 2598.
- Cellulose naphthenoacetate, mfr., 1741.
- Cellulose naphtheno-laurate, mfr., 1713.  
 —, *see also Cellulose lauronaphthenate.*
- Cellulose naphtheno-oleate, 1091.
- Cellulose nicotinate, mfr., 1731.
- Cellulose nitrate, 6, 1581, 1609, 1666, 1667, 1674, 1677, 1858.  
 —, acetating, 349, 353, 598.  
 —, acetylated, denitrating, 356.  
 —, acetylating, 476, 480, 594, 888.  
 —, alcohol solidified using, 486.  
 —, aluminum fluoride for reducing inflammability of, 92.  
 —, aluminum hydroxide with as plastic, 353.  
 —, aluminum phosphate for reducing inflammability of, 92.  
 —, amines solvent for, 2009.  
 —, ammonia, liquid, solvent for, 620.  
 —, amyl acetate plastic with, 442.  
 —, anilindiemethylaminophenonaphthoxyazin chloride combined with, 283.
- Cellulose nitrate, anisole as solvent for, 812.  
 —, aryloxyacetic acid esters plasticifier for, 66.  
 —, balata plastic of, with, 87.  
 —, benzyl acetate solvent for, 1928.  
 —, benzyl alcohol as solvent for, 812.  
 —, bleaching, 899.  
 —, blood with, as plastic, 353.  
 —, butyl acetoacetate with as plastic, 48.  
 —, butylcellulose and, 1340.  
 —, calcium citrate for reducing inflammability of, 92.  
 —, calcium phosphate for reducing inflammability of, 92.  
 —, calcium sulfate for reducing inflammability of, 92.  
 —, calcium tartrate for reducing inflammability of, 92.  
 —, camphor and as plastic, 367.  
 —, camphor plastic of, with, 87.  
 —, carbon bisulfide solvent for, 1798.  
 —, cellulose acetate with, 330, 788.  
 —, cellulose acetate for increasing strength of, 445.  
 —, cellulose acetate for reducing inflammability of, 549.  
 —, cellulose acetate separated from, 1065.  
 —, cellulose benzoate with, 330.  
 —, cellulose butyrate with, 330.  
 —, cellulose ether combined with, 22.  
 —, chloral for reducing inflammability of, 549.  
 —, chloral hydrate for reducing inflammability of, 549.  
 —, cigarette tip made using, 809, 2431.  
 —, cigarette tip wrapped using, 296.  
 —, cinchonine for reducing inflammability of, 549.  
 —, cinchonine sulfate for reducing inflammability of, 549.  
 —, coagulation of, 860, 868.  
 —, coating compn. containing, 530.  
 —, *compacting, see Cellulose nitrate, colloiding, gelatinizing, indurating.*  
 —, *compressed, see Cellulose nitrate blocks.*  
 —, cotton pulp for mfr. of, 989.  
 —, crystalline structure of, 657.

- Cellulose nitrate, cyclohexanol acetate solvent, 408.
- , cyclohexanol formate solvent, 408.
- , cyclohexyl phenoxyacetate plastifier for, 66.
- , cyclohexyl 2,4,6-trichlorphenoxyacetate plastifier for, 66.
- , cyclopentanol ester solvent, 408.
- , decomposition, gases in, 897.
- , denitrated, etherifying, 1414.
- , *deterioration, see Cellulose nitrate, decomposition.*
- , dibutyl phthalate as solvent for, 124.
- , 2,7-dimethyl-3-dimethylamino-6-methyl-aminoazonium phenyl chloride combined with, 283.
- , dioxane as solvent for, 124, 1876.
- , dioxydiphenyldimethylmethane plastic with, 416.
- , double refraction, 892.
- , *dry plates, see Collodion, dry plates.*
- , —, *preservative for, see Collodion dry plates, preservatives; Cellulose nitrate-emulsion.*
- , dyeing, 5, 86.
- , emulsifying, methylcellulose for, 2454.
- , emulsion, producing, 214.
- , emulsion containing, 2453, 2456.
- , ethyl acetoacetate with as plastic, 48.
- , ethylbenzylcellulose with, 1594.
- , ethylcellulose combined with, 48.
- , ethylcellulose insolubilized by, 2577.
- , ethylchloride as solvent for, 1273.
- , ethyleneacetochlorhydrin solvent for, 406.
- , ethylenethiohydrin plastifier for, 66.
- , explosive containing, 395.
- , fabric, balloon, coated with, 2482.
- , —, dirigible, coated with, 2482.
- , —, waterproof, made using, 713.
- , fabric coated using, 2483.
- , filament of, 808, 2071.
- , filament, properties, 641.
- , film of, 241, 531, 808, 886, 2503, 2507, 2513.
- , film, colored, made using, 2531.
- , —, photographic, of, 92.
- Cellulose nitrate, film, X-ray, inflammability, 545.
- , film enamelled with, 377.
- , fluorescence, 891.
- , fluorescent, film, 1372.
- , foam-like mass of, mfr., 431.
- , foil of, 898, 946, 999.
- , glass, laminated, made using, 2585, 2586.
- , glass coated using, 2417.
- , *hardening, see Cellulose nitrate, indurating.*
- , hexahydrophenols solvent, 408.
- , hexamethyltetramine stabilizer for, 353.
- , India rubber made using, 368.
- , inflammability, 545, 641.
- , —, reducing, 349, 380, 410, 506.
- , ink containing, 995, 2329.
- , ink, marking, containing, 2330.
- , iridizing, 884.
- , lace, preparation of from, 2381.
- , lacquer containing, 1035, 2391, 2420.
- , lacquering, 884.
- , latex combined with, 2542.
- , light dispersion in, 963.
- , *lignin, see Nitrolignin.*
- , magnesium dihydrogen-*o*-antimonate for reducing inflammability of, 92.
- , magnesium lactate as stabilizer for, 132.
- , mfr. of, 728, 795, 1006.
- , —, methyl alcohol in, 1829.
- , —, *slabs, see Cellulose nitrate, blocks.*
- , matt effect by, 2180.
- , metaphosphoric acid as solvent of, 692.
- , methyl acetate as solvent of, 485.
- , methyl acetoacetate with, as plastic, 48.
- , methyl alcohol as solvent of, 485.
- , methyl alcohol plastic with, 442.
- , methylcellulose binder for, 291.
- , methylcellulose emulsified for, 239.
- , methylcellulose for emulsifying, 2454.
- , methylcellulose insolubilized by, 2577.
- , methylcellulose plastic with, 243.

- Cellulose nitrate, methylcellulose solubility decreased by, 2454.
- , methylcyclohexanone as solvent for, 124.
  - , b-methylcyclopentanol acetate solvent, 408.
  - , ethylethylacetoacetate with as plastic, 48.
  - , methyl formate solvent for, 396.
  - , methylglycol acetate as solvent for, 124.
  - , *molding*, see *Cellulose nitrate, compressing*.
  - , molecular condition, 914.
  - , multicolor photographic screen of, 917.
  - , multicolor screen made using, 2533.
  - , naphthalene, plastic of, with, 87.
  - , nitromethane dissolved by, 364.
  - , oil-cloth, imitation, made using, 368.
  - —, oleates, plastic of, with, 87.
  - , orientation of, 837.
  - , orthophosphoric acid as solvent of, 692.
  - , paint containing, 1585.
  - , paper, decalomania, made using, 2552.
  - , paraffin, plastic of, with, 87.
  - , patent leather made using, 368.
  - , pearl essence containing, 2615.
  - , pentoxide in acetylating, 480.
  - , peptisation of, 620, 860, 868.
  - , permeability of regenerated cellulose reduced by, 167.
  - , phosphorous pentachloride in acetylating, 480.
  - , *photographic*, see *Collodion, photographic*.
  - , plastic containing, 1676, 2573, 2576, 2577.
  - , plasticizer, 367.
  - , plastic properties of, 713.
  - , polarity of, 732.
  - , porous, mfr., 431.
  - , powder, cellulose acetate in, 576.
  - , printing, intaglio, made using, 2551.
  - , printing on, 845.
  - , printing ink containing, 2329.
  - , propylacetoacetate with, as plastic, 48.
  - , pseudo-crystallization of, 837.
  - , relaxation of, 1933, 1042.
- Cellulose nitrate, resin, synthetic, combined with, 132.
- , resinate, plastic of, with, 87.
  - , resorcinbenzeindimethyl ether bromide combined with, 283.
  - , rigidity, permanent, of, 1042.
  - , Roentgen-spectrograph of, 71.
  - , Roentgen-ray analysis of, 657.
  - , rubber, vulcanized, combined with, 2542.
  - , rubber plastic of, 87.
  - , screen of, 845.
  - , screen, multicolor, of, 909.
  - , sensitizing, 282.
  - , sheet, flexible, made using, 468.
  - , sheet, waterproofing, 654.
  - , sheeting from, 801.
  - , solid alcohol containing, 364.
  - , sols, elasticity of, 819.
  - , —, viscosity of, 819.
  - , solubility, 871.
  - , solvents for, 1849.
  - , —, see also *the individual solvents*.
  - , spectra, 1107.
  - , *spent acid in mfr. of*, see *Spent acid*.
  - , stabilizing, 330.
  - , stencil sheet made using, 2488, 2489, 2490.
  - , strengthening, 2130, 2134.
  - , sulfur dioxide, liquid solvent for, 620.
  - , sulfuric acid content of, 939.
  - , sulfuryl chloride in acetylating, 480.
  - , temperature, 895.
  - , textiles, metallization of, using, 2361.
  - , *thermoplastic*, see *Celluloid*.
  - , thickener of, 176.
  - , thin, properties, 805.
  - , toluene plastic with, 442.
  - , treatment of, 543.
  - , tricesyl phosphate for reducing inflammability of, 92.
  - , tube of, 898.
  - , *ungelatinized*, see *Cellulose nitrate*.
  - , urea as stabilizer for, 132.
  - , viscosity of, 212, 811, 1774.
  - , —, determination, 926.
  - , —, diminishing, 697.
  - , —, lowering ozone for, 1037.
  - , —, reducing, 443, 567, 620, 822, 918, 1357, 1358.
  - , —, see also *Viscosity*.

- Cellulose nitrate, viscosity decrease, 1054.  
—, waste acid in mfr. of, *see Spent acid*.  
—, water absorption, 1108.  
—, waterproofing using, 2637.  
—, wax, plastic of, with, 87.  
—, wood pulp for mfr. of, 989.  
—, X-ray diagram, 914, 1371.  
—, X-ray spectrogram of, 837.  
—, *see also Celluloid*.  
*Cellulose nitrate blocks, see Cellulose nitrate, compressed.*  
Cellulose nitrate silk, Picocarmin K for identifying, 731.  
Cellulose nitroacetate, 1637, 1696, 1948.  
—, dissolving, 267.  
—, iodobenzene solvent of, 1826.  
—, mfr., 622, 1005.  
—, moniodobenzene, solvent of, 1826.  
—, solvent power of, 561.  
—, viscosity of, 561.  
—, *see also Cellulose acetate*.  
Cellulose nitroacrylate, mfr., 622.  
Cellulose nitrobenzoate, 868, 1596, 1675.  
—, mfr. of, 122, 243, 1005, 2314.  
—, properties, 903.  
—, *see also Cellulose benzonitrate*.  
Cellulose nitrobromacetate, mfr., 622.  
Cellulose nitrobromacrylate, mfr., 622.  
Cellulose nitrobrombutyrate, mfr., 622.  
Cellulose nitrobromcrotonate, mfr., 622.  
Cellulose nitrobrompropionate, mfr., 622.  
Cellulose nitrobromundecylenate, mfr., 622.  
Cellulose nitrobutyrate, 1696.  
—, mfr., 622.  
Cellulose nitrochloracetate, mfr., 622.  
Cellulose nitrochloracrylate, mfr., 622.  
Cellulose nitrochlorbutyrate, mfr., 622.  
Cellulose nitrochlorcrotonate, mfr., 622.  
Cellulose nitrochlorpropionate, mfr., 622.  
Cellulose nitrochlorundecylenate, mfr., 622.  
Cellulose nitrocrotonate, mfr., 622.  
Cellulose mononitrodiacetate, mfr., 585.  
Cellulose nitro-glycerate, mfr., 886.  
Cellulose nitro-glycolate, mfr., 886.  
Cellulose nitro-lactate, mfr., 886.  
Cellulose nitrolaurate, mfr., 1005, 1704.  
Cellulose nitro-malate, mfr., 886.  
Cellulose nitro-mandelate, mfr., 886.  
Cellulose nitro-oleate, mfr., 1005.  
Cellulose nitro-propionate, 1696.  
—, mfr., 622.  
Cellulose nitro-racemate, mfr., 886.  
Cellulose nitrosulfate, 1680.  
*Cellulose nitrosulfuric esters, see Cellulose sulfuric acid esters.*  
Cellulose nitro-tartrate, mfr., 886.  
Cellulose nitroundecylenate, mfr., 622.  
Cellulose oleate, 868, 1716, 2003, 2354.  
—, gasoline absorbed by, 990.  
—, gasoline filter medium, 990.  
—, insulating wire with, 155.  
—, mfr., 642, 878, 1702.  
—, spool coated with, 879.  
Cellulose oleonaphthenate, 1091, 1714.  
Cellulose oleo-naphtheno-laurate, 1092.  
Cellulose oleyl-xanthate, 1718.  
Cellulose oxalate, 868, 870, 1754.  
—, cellulose acetate sized by, 933.  
—, film of, 886, 2506.  
—, mfr., 646, 995, 1726.  
—, nitrogen-containing ether from, mfr. of, 273.  
—, sizing with, 2137, 2139.  
—, solvent for, 1982.  
—, thionyl chloride for etherifying, 273.  
—, yarn sized by, 933.  
Cellulose oxalic esters, 1727.  
Cellulose palmitate, 868, 1701, 1706, 1711, 2354.  
—, crayons made using, 2540.  
—, gasoline absorbed by, 990.  
—, gasoline filter medium, 990.  
—, liquids dried by, 1719.  
—, mfr., 648, 878, 906, 1704.  
—, paint, antifouling, containing, 1719.  
—, phenol-formaldehyde plastic with, 440.

- Cellulose palmitate, plastic of with carbon bisulfide, 440.  
 —, properties, 648.  
 —, spool coated with, 879.  
 —, wax, sealing, made using, 2540.  
 Cellulose palmitoacetate, mfr., 879.  
 Cellulose palmitodiacetate, mfr., 1705.  
 Cellulose palmitodinitrate, mfr., 1705.  
 Cellulose palmitoformate, mfr., 1044.  
 Cellulose palmito-phthalate, mfr., 835.  
*Cellulose palmitylacetate, see Cellulose acetylpalmitate.*  
 —, alcohol, solubility, 1345.  
 Cellulose pelargonate, alcohol, solubility, 1345.  
 —, benzene, solubility, 1345.  
 —, benzine, solubility, 1345.  
 —, ether, solubility, 1345.  
 —, ethyl acetate, solubility, 1345.  
 —, water, solubility, 1345.  
 Cellulose pentacetate, 235.  
 Cellulose permanganate, oxidized, alkali absorbed by, 1144.  
 Cellulose phenylacetate, 1712, 2003.  
 —, mfr. of, 232, 906, 1702, 1711, 1716.  
 Cellulose phenylacetolaurate, mfr., 1741.  
 Cellulose phenylcarbamate, mfr., 41, 459.  
 Cellulose phenylethylthiourethane, mfr. of, 90, 1643.  
*Cellulose phenylimidothiolcarboxylate, see Cellulose xanthanilid.*  
*Cellulose phenylimidothiolcarboxylate ether, see Cellulose xanthanilid alkyl-ether.*  
 Cellulose phenylisocyanate, 41.  
 —, mfr., 1760.  
 Cellulose phenylpropionate, 2003.  
 —, mfr., 1702.  
*Cellulose phenylthiocarbamate, see Cellulose phenylthiourethane.*  
 Cellulose phenylthiourethane, 1641, 1642, 1768.  
 —, benzylating, 91.  
 —, ethylating, 91.  
 —, mfr., 1768.  
 —, methylating, 91.  
 —, *see also Cellulose xanthanilid.*  
 Cellulose phenylurethane, 738.  
 —, film made using, 2508.  
 —, filter of, 2459.  
 Cellulose phenylurethane, mfr. of, 91.  
 Cellulose phosphate, 1686, 1638.  
 —, etherification of, 12.  
 —, mfr., 602, 666, 700, 971, 995, 1687.  
 —, properties, 700.  
 Cellulose phosphoacetate, 1687  
 —, film made using, 2521.  
 —, saponifying, 832.  
 Cellulose phosphoformate, 1687, 1901, 1911.  
 —, precipitant for, 386.  
 Cellulose phospholaurate, 1711.  
 —, mfr. of, 243.  
 Cellulose phthalate, 1736, 1754.  
 —, mfr., 557, 1726, 1735, 2314.  
 —, nitrogen-containing ether from, mfr. of, 273.  
 —, solubility, 1735.  
 —, solvent, for, 1982.  
 —, thionyl chloride for etherifying, 273.  
 Cellulose phthalyl-crotonate, 1728.  
 Cellulose phthalyl-dinitrate, 1736.  
 —, mfr., 948.  
 Cellulose picolinate, mfr., 1731.  
*Cellulose propioacetate, see Cellulose acetopropionate.*  
 Cellulose propiobenzoate, mfr., 1699.  
 Cellulose propio-butyrate, mfr., 773, 1065, 1699.  
 Cellulose propiocinnamate, mfr., 1699.  
 Cellulose propiocrotonate, mfr., 1699.  
 Cellulose propiocyclohexanecarboxylate, mfr., 1699.  
 Cellulose propioformate, mfr., 1044.  
 Cellulose propiohydrocinnamate, mfr., 1699.  
 Cellulose propiolaurate, mfr., 1699.  
 Cellulose propiomyristate, mfr., 1699.  
 Cellulose propionate, 1696, 1697, 1749, 1948, 2390.  
 —, acetone, solubility, 1345.  
 —, alcohol, solubility, 1345.  
 —, amyl nitrite for bleaching, 1014.  
 —, benzene, solubility, 1345.  
 —, benzine, solubility, 1345.  
 —, bleaching, 1014, 1698.  
 —, 4-brom-2-nitro-diphenylamine for dyeing, 750.  
 —, 4-brom-2'-nitro-diphenylamine for dyeing, 750.

- Cellulose propionate, 4-brom-2-nitro-4'-methoxydiphenylamine for dyeing, 750.  
—, carbonizing, 767, 1698.  
—, cellulose ether for thickening paste of, 172.  
—, 4-chlor-2-nitro-4'-acetamidodiphenylamine for dyeing, 750.  
—, 4-chlor-2'-nitro-diphenylamine for dyeing, 750.  
—, 4-chlor-2-nitro-4'-ethoxydiphenylamine for dyeing, 750.  
—, 4-chlor-2-nitro-3'-methyl-diphenylamine for dyeing, 750.  
—, creasing, preventing, 1001.  
—, delustred, restoring luster, 135.  
—, delustring, 774, 1698.  
—, dyeing, 413, 607, 934, 1698.  
—, dyeing textiles of, 2243.  
—, ether, solubility, 1345.  
—, etherifying, 1434.  
—, ethyl acetate, solubility, 1345.  
—, ethyl nitrite for bleaching, 1014.  
—, fabric of, printing on, 2328.  
—, film of, 103, 2526.  
—, glass, laminated, made using, 294.  
—, guanidine nitrite for hydrolyzing, 1014.  
—, hydrolyzing, 1014.  
—, ironing, 172.  
—, mfr. of, 360, 495, 621, 642, 667, 700, 773, 811, 865, 918, 928, 942, 949, 1058, 1739.  
—, mordanting, 2155.  
—, 2-nitro-4'-acetamidodiphenylamine for dyeing, 750.  
—, 2-nitrodiphenylamine for dyeing, 750.  
—, 2-nitro-4'-ethoxy-4-methyldiphenylamine for dyeing, 750.  
—, nitrogen dioxide for bleaching, 1014.  
—, nitrogen tetroxide for bleaching, 1014.  
—, 2-nitro-4-methyl-diphenylamine for dyeing, 750.  
—, nitrous acid for hydrolyzing, 1014.  
—, plastic containing, 523.  
—, plastic of, mfr., 292.  
—, properties, 700, 1698.  
—, relustring, 1698.  
—, saponifying, 744, 747, 1698.  
—, solubility, 949, 1698.  
—, spinning solutions of, 259.  
—, stencil sheet made using, 2491.  
Cellulose propionate, warp effects on, mfr., 765.  
—, water, solubility, 1345.  
—, waterproofing, 2158.  
—, weighting, 2156.  
Cellulose propionic acid, alkali salt of, gelatin substitute, 449.  
—, mfr., 518.  
—, salts of, 518.  
Cellulose propion-nitrate, mfr., 929, 1063, 1699.  
Cellulose propiono-benzoate, mfr., 942.  
Cellulose propionobutyrate, mfr., 1741.  
Cellulose propiono-*iso*-butyrate, mfr., 942.  
Cellulose propiono-*n*-butyrate, mfr., 942.  
Cellulose propiono-cinnamate, mfr., 942.  
Cellulose propiono-crotonate, mfr., 942.  
Cellulose propiono-cyclohexanecarboxylate, mfr., 942.  
Cellulose propiono-glycollate, mfr., 1726.  
Cellulose propiono-*n*-heptylate, mfr., 942.  
Cellulose propiono-hydrocinnamate, mfr., 942.  
Cellulose propiono-laurate, mfr., 942.  
Cellulose propiono-*o*-methoxybenzoate, mfr., 942.  
Cellulose propiono-myristate, mfr., 942.  
Cellulose propiono-nitrate, 1696.  
Cellulose propiono-palmitate, mfr., 942.  
Cellulose propiono-palmito-stearate, mfr., 942.  
Cellulose propiono-stearate, mfr., 942.  
Cellulose propiono-undecylenate, mfr., 942.  
Cellulose propiono-*iso*-valerate, mfr., 942.  
Cellulose propiono-*n*-valerate, mfr., 942.  
Cellulose propiopalmitate, mfr., 1699.  
Cellulose propiopalmitostearate, mfr., 1699.  
Cellulose propiono-phthalate, mfr., 835, 1699.



- Cellulose propiostearate, mfr., 1699.
- Cellulose propioundecylenate, mfr., 1699.
- Cellulose propiovalerate, mfr., 1699.
- Cellulose pyromucate, see Cellulose furoate.*
- Cellulose pyruvate, solvent for, 1068.
- Cellulose pyruvylbenzoate, 1738.
- Cellulose quinolinate, mfr., 1731.
- Cellulose ricinoleate, 1706.
- Cellulose monoricinoleate, mfr., 560.
- , solubility, 560.
- Cellulose ricinoleo-butyrate, mfr., 1713.
- Cellulose salicylate, solvent for, 1982.
- Cellulose silicoacetate, 1688.
- Cellulose stearate, 153, 868, 1716, 2003, 2354.
- , acetone, solubility, 1345.
- , alcohol, solubility, 1345.
- , benzene, solubility, 1345.
- , benzine, solubility, 1345.
- , cigarette tip containing, 2432.
- , crayons made using, 2540.
- , ether, solubility, 1345.
- , ethyl acetate, solubility, 1345.
- , gasoline absorbed by, 990.
- , liquids dried by, 1719.
- , mfr., 648, 878, 906, 990, 1704.
- , paper waterproofed with, 997.
- , plastic made using, 2559.
- , properties, 648.
- , spool coated with, 879.
- , water, solubility, 1345.
- , wax, sealing, made using, 2540.
- Cellulose stearo-acetate, film made using, 2521.
- Cellulose stearo-crotonate, 1728.
- Cellulose stearoformate, mfr., 1044.
- Cellulose stearopalmitate, mfr., 1717.
- Cellulose stearo-phthalate, mfr., 835.
- Cellulose stearyl-xanthate, 1718.
- Cellulose succinate, mfr., 2314.
- Cellulose sulfacetate, 721, 924.
- , cosmetic product produced with, 479.
- , edible product produced with, 479.
- , medicinal product produced with, 479.
- Cellulose sulfacetate, removal from acetylating mixture, 846.
- , salve-like product produced with, 479.
- , saponifying, 832.
- , stereotype of, 404.
- , *see also Celluloseacetosulfate.*
- Cellulose sulfate, 146, 781, 1679, 1680, 1682.
- , decomposing, 822.
- , mfr., 615, 638, 666, 819, 822, 971, 1059.
- , moisture absorption of, 939.
- , removal from cellulose acetate, 950, 956.
- , water-soluble, mfr., 914.
- Cellulose sulfinate, 1682.
- Cellulose sulfite liquor, cellulose acetate combined with, 560.
- Cellulose sulfite waste, lignoproteins from, 472.
- Cellulose sulfoacetate, 1687.
- Cellulose sulfocarbonate, 322, 328.
- , *see also Cellulose xanthate.*
- Cellulose sulfocyanide, 1688.
- Cellulose sulfonate, 1682, 1684, 1686.
- , mfr., 363, 638.
- , properties, 364.
- Cellulose sulfonic ethers, mfr. of, 253.
- Cellulose sulfuric esters, 595.
- Cellulose tartrate, sizing with, 2137.
- Cellulose tetracetate, 334, 335.
- Cellulose tetra-fluorosulfonate, mfr., 1066.
- Cellulose thiocarbamate, see Cellulose thiourethane.*
- Cellulose thiocarbonate, see Viscose.*
- Cellulose thiocyanate, 1688, 1689.
- Cellulose thiomethanamine, mfr. of, 255.
- Cellulose thiomethanephnylamine, 1760.
- , mfr. of, 255, 1760.
- Cellulose thionthiolcarbonate, see Cellulose xanthic acid.*
- Cellulose thionthiol-carbon-glycollic acid, see Cellulose xanthic acid; Glycolcellulose xanthacetic acid.*
- Cellulose thionthiolcarbonhydroxy-paraffin monocarboxylic acid, 1763.
- Cellulose thiourethane, 1641, 1646, 2161.

- Cellulose thiourethane, mfr., 90, 124, 206.  
 —, N-substituted, 1643.  
 —, —, cotton treated with, 2638.  
 —, properties, 206.  
 —, viscosity of, 2460.  
 Cellulose *p*-toluene chloride, mfr., 725.  
 Cellulose toluenesulfo-benzoate, 1757.  
 Cellulose *p*-toluene sulfochloride, 1633.  
 Cellulose toluene-*p*-sulfonate, mfr., 363.  
 —, properties, 364.  
 Cellulose *p*-toluenesulfonate, 1684, 1753, 1755.  
 —, mfr., 2313, 2314.  
 Cellulose toluene-4-sulfonate, 123, 1756, 1757.  
 Cellulose tolylthiourethane, benzylating, 91.  
 —, ethylating, 91.  
 —, mfr., 1768.  
 —, methylating, 91.  
 Cellulose tolyl urethane, mfr. of, 91.  
 Cellulose triacetate, 334, 1129.  
 —, cellobiose octo-acetate from, 1126.  
 —, collar waterproofed by, 566.  
 —, filaments from, 200.  
 —, fluorescence, 994.  
 —, hydrolysis, velocity of, 709.  
 —, mfr. of, 200, 318, 789.  
 —, molecular condition, 914.  
 —, resinous condensate with, 200.  
 —, *see also* *Cellulose acetate*.  
 Cellulose triacetate I, 965.  
 Cellulose triacetate II, 875, 965.  
 Cellulose triacetate K, 875.  
 Cellulose tribenzoate, 1738.  
 —, mfr., 1733.  
 Cellulose tributyrates, 1701, 1702.  
 —, hydrolysis of, 1012.  
 —, mfr., 832, 905, 1012.  
 Cellulose tri-*iso*-butyrate, mfr., 832.  
 Cellulose tri-caproate, 153.  
 —, mfr., 1706.  
 Cellulose trichloracetate, 1695.  
 —, filaments from, 200.  
 —, mfr. of, 200.  
 Cellulose tricinnamate, 1737.  
 —, mfr., 870.  
 Cellulose tricoctonate, mfr., 833, 1728.  
 Cellulose tri-ethylcellulose oxalate, 1727.  
 Cellulose tri-ethyl-oxalate, 1727.  
 Cellulose tri-fluorosulfonate, mfr., 1066.  
 Cellulose trifuroate, mfr., 986, 1730.  
 Cellulose tri-laurate, 153, 200, 1708, 1710.  
 —, benzene solvent for, 538.  
 —, chloroform solvent for, 538.  
 —, coat, priming, containing, 2398.  
 —, coatings, artificial, of, 1666.  
 —, —, rust-proof, containing, 1718.  
 —, coating containing, 201.  
 —, lacquer containing, 2423.  
 —, mfr., 537, 560, 648, 789, 980.  
 —, metal coated using, 790.  
 —, paint, anti-rust, 1717.  
 —, plastics of, 1666.  
 —, properties, 538, 648, 709.  
 —, pyridine solvent for, 538.  
 —, solubility, 560.  
 —, tetrachlorethane solvent for, 538.  
 —, uses, 1718.  
 —, wood coated using, 790.  
 —, wood filler containing, 2398.  
 Cellulose tri-margarate, 153.  
 Cellulose trioxalate, mfr., 870.  
 Cellulose tri-palmitate, 153, 1707, 1708.  
 —, benzene solvent for, 538.  
 —, chloroform solvent for, 538.  
 —, mfr., 537, 560, 648, 1705.  
 —, properties, 538, 648, 709.  
 —, pyridine solvent for, 538.  
 —, solubility, 560.  
 —, tetrachlorethane solvent for, 538.  
 Cellulose tripropionate, chlortoluene solvent for, 284.  
 —, plastic made using, 2579.  
 Cellulose triricinoleate, mfr., 560.  
 —, solubility, 560.  
 Cellulose tris (dibromhydro) cinnamate, mfr., 871, 1737.  
 Cellulose tri-stearate, 153, 1708, 1709, 1710, 1714.  
 —, benzene solvent for, 538.  
 —, chloroform solvent for, 538.  
 —, mfr., 537, 560, 648.  
 —, properties, 538, 648, 709.  
 —, pyridine solvent for, 538.  
 —, solubility, 560.  
 —, solubilizing, 882.  
 —, tetrachlorethane solvent for, 538.

- Cellulose trisulfate, 728, 1681.  
 Cellulose trisulfonate, mfr. of, 231, 1686.  
 Cellulose undecylenate, mfr., 807.  
 Cellulose urethane, 124, 161.  
 —, precipitating, 124.  
*Cellulose urethane ether, see Cellulose thiouretane.*  
 Cellulose valerate, acetone, solubility, 1345.  
 —, alcohol, solubility, 1345.  
 —, benzene, solubility, 1345.  
 —, benzine, solubility, 1345.  
 —, ether, solubility, 1345.  
 —, ethyl acetate, solubility, 1345.  
 —, mfr., 621, 942.  
 —, water, solubility, 1345.  
 Cellulose veratroate, mfr., 1732.  
 Cellulose waste liquor, cellulose acetate solubilizer, 903.  
 Cellulose xanthacetate, 1762.  
 —, mfr., 829, 1761.  
 Cellulose xanthacetic acid, 88, 1764.  
 —, mfr., 1761.  
 Cellulose xanthamide, 1646.  
 —, mfr., 815, 1767.  
 —, *see also Cellulose urethane.*  
 Cellulose xanthanilid, 1113, 1768.  
 —, ethylation of, 91.  
 —, mfr., 90, 1767.  
 —, *see also Cellulose phenylthiouretane.*  
 Cellulose xanthanilid alkyl-ether, 1643.  
 Cellulose xanthate, 87, 88, 90, 1645, 1685, 1761.  
 —, acetamide compound of, 148.  
 —, ammonia compound of, 148.  
 —, benzamide compound of, 148.  
 —, cellulose acetate and, 791.  
 —, cyanamide compound of, 148.  
 —, dicyanamide compound of, 148.  
 —, dicyanodiamide compound of, 148.  
 —, filaments of, cellulose acetate with, 791.  
 —, guanidine compound of, 148.  
 —, mfr. of, 255, 588.  
 —, methylated, 1310.  
 —, monoethyltoluidine solvent for, 132.  
 —, monoethylaniline solvent for, 132.  
 —, monoethylxylidine solvent for, 132.  
 —, nitrogen compounds of, 148.  
 Cellulose xanthate, phthalimide compound, 148.  
 —, thiourea compound of, 148.  
 —, *see also Viscose.*  
 Cellulose xanthate-chlorhydrin, 1399.  
 Cellulose xanthatoluidid, 1642.  
 Cellulose xanthic acid, 87, 88, 90, 1764.  
 —, aryl esters of, 124.  
 Cellulose xanthic acid ester, 2169.  
 Cellulose xanthic esters, cotton treated with, 2638.  
 Cellulose xanthoacetate, 1645.  
 Cellulose xanthoacetic acid, 1769.  
 —, mfr., 815.  
 Cellulose xanthofatty acid, 124, 1763.  
 —, dissolving, 2642.  
 —, ethylating, 124.  
 —, methylating, 124.  
 Cellulose xanthogenate, etherification of, 13.  
 —, *see also Cellulose xanthate.*  
 Cellulose xanthogenateanilid, 125.  
 Cellulose xantho-glycerophosphate, 1765.  
 Cellulose xyllylthiouretane, 1645.  
 Cellulose xyllyl urethane, mfr. of, 91.  
 Cellulosin, ethers of, 44.  
*Cellusol, see p-Toluenesulfamid.*  
 Cellutite, 665, 2567.  
 Celluxose, 1369.  
 Celoglass, 919, 2555, 2567.  
 —, cellulose ester for mfr. of, 2555.  
 —, cellulose ether for mfr. of, 2555.  
 Celta, 652.  
 —, properties, 726, 2370.  
 —, uses in knitting, 735.  
 Cement, carboxyalkylcellulose esters for, 1398.  
 —, cellulose acetate for, 473.  
 —, cellulose ether, 2598.  
 —, cellulose phenylethylthiouretane for, 1643.  
 —, chlorhydroxypropylcellulose for, 1398.  
 —, elemi for, 473.  
 —, epichlorhydrin for, 1398.  
 —, ethylaminocellulose acetate for, 1398.  
 —, hydroxyalkylaminocellulose for, 1398.  
 —, hydroxyalkylcellulose for, 1398.  
 —, hydroxyethylaminocellulose for, 1398.

- Cement, linoleum, 1580.
- , —, mfr., 2547.
- , mold for casting, cellulose acetate for, 574.
- , oxyalkylcellulose for, 1398.
- , propyloxyethylaminocellulose for, 1398.
- , thionyl chloride for, 1398.
- , waterproofing, cellulose acetate for, 431.
- Centralite I, 2030.
- Centralite II, 2030.
- Cephaline ethyl ether, ethyl bromide in mfr., 1275.
- Ceramic, coating, cellulose ester for, 260.
- , —, cellulose ether for, 260.
- , filling, cellulose ester for, 260.
- , —, cellulose ether for, 260.
- Cerasin red, strip, photographic film, printing on, made using, 2535.
- Ceratonia Siliqua*, 2594.
- Cerebroside, 1502.
- Ceresin, 2053.
- , cellulose acetate lacquer containing, 841.
- , coating containing, 201.
- , crayons made using, 2540.
- , ethylcellulose plastic containing, 291.
- , floor covering containing, 966.
- , mfr., 2540.
- , stencil sheet made using, 2499.
- , wax, sealing, made using, 2540.
- Ceria*, see *Cerium oxide*.
- Cerin*, see *Cerotic acid*.
- Cerium, catalyst in acid mfr., 788.
- , salts of, cellulose treated with, 1137.
- Cerium carbonate, cellulose ether inflammability reduced by, 132.
- Cerium metaphosphate, catalyst in acid mfr., 788.
- , catalyst in ester mfr., 788.
- Cerium nitrate, glass made using, 525.
- Cerium oxalate, benzylcellulose treated with, 1561.
- , cellulose ether inflammability reduced by, 132.
- Cerium oxide, catalyst in acetaldehyde mfr., 781, 927.
- , catalyst in acetic acid mfr., 781.
- , cellulose ester delustrated by, 270.
- , cellulose ester weighted by, 270.
- , cellulose ether delustrated by, 270.
- Cerium oxide, cellulose ether weighted by, 270.
- , delustrating with, 2169, 2179.
- , loading with, 2156.
- Cerotic acid*, see *Cerotic acid*.
- Cerous*, see *Cerium*.
- Cerulein, amines solvent for, 2009.
- Cervinite, 665, 2567.
- Ceryl alcohol, dispersing agent, 2209.
- Cetin*, see *Spermaceti*.
- Cetopaline, 826.
- Cetraria islandica, 1161.
- Cetraric acid*, see *Cetrarin*.
- Cetyl alcohol, amines solvent for, 2009.
- , sulfonated, softener, 1070.
- n*-Cetyl alcohol, dispersing agent, 2209.
- Cetylcellulose oxalate, mfr., 870.
- Cetyl chloride, cellulose esterified using, 870.
- Cetylic alcohol*, see *Cetyl alcohol*.
- Cetyl-oxalyl chloride, mfr., 870.
- Cetyl palmitate, benzylcellulose treated with, 1562.
- , properties, 732.
- Cetyl stearate, properties, 732.
- Cetyl-sulfoleate, cellulose ether dispersed by, 171.
- Cetyl-sulforicinoleate, cellulose ether dispersed by, 171.
- Chalk, delustrating with, 2183.
- , emulsion containing, 2453, 2456.
- , molding powder containing, 2645.
- , plastic made using, 2573.
- Chamber crystals*, see *Nitrosulfonic acid*; *Nitrosyl sulfate*.
- Chamber process*, see *Sulfuric acid, manufacture, Chamber process*.
- Chamomile oil, 2044.
- Chamomile (Roman), oil, 1836.
- Chandler machine, 270.
- Chappe, artificial, mfr. of, 2372.
- Charcoal, acetic acid absorption by, 567.
- , acetone recovered by absorption in, 947.
- , acetone recovery by, 2127.
- , animal, discharging dye by, 165.
- , benzene absorbent, 528.
- , catalyst in ethyl chloride mfr., 1269.
- , cellulose ether purified by, 1465.
- , ink made using, 2474.
- , solvent recovery by, 2127.

- Chardonnet silk*, see *Filaments*, *artificial*, *Chardonnet*.  
*Chatoyant effect*, cellulose acetate for, 566.  
*Chavibetol*, 1863.  
*iso-Chavibetol*, 1863.  
*Chelene*, 1275.  
*Cherry laurel oil*, 2044.  
*Cherry oil*, 1962.  
*Chicory*, inulin from, 1156.  
*Chilblains*, treatment of, 2446.  
*Chili saltpeter*, see *Niter*; *Sodium nitrate*.  
*Chilian nitrate*, see *Sodium nitrate*.  
*China clay*, 147.  
—, cellulose ester delustred by, 271.  
—, cellulose ester weighted by, 271.  
—, cellulose ether delustred by, 271.  
—, cellulose ether weighted by, 271.  
—, cellulose united with, 538.  
—, delustring with, 2169.  
—, filler containing, 2480.  
—, film dulled by, 1096.  
—, primer containing, 2480.  
—, record, phonograph, made using, 822, 2604.  
—, rubber united with, 538.  
*China grass*, acetating, 660.  
*China green*, cellulose acetate dyed using, 530, 672, 2235.  
*China green base*, cellulose acetate dyed using, 530.  
—, cellulose ether dyeing using, 2237.  
*Chinaldine*, see *Quinaldine*.  
*China wood oil*, 2409.  
—, enamel of cellulose ester and, 249.  
—, enamel of cellulose ether and, 249.  
—, ink, marking, containing, 2330.  
—, lacquer, cellulose ether, containing, 2415.  
—, sheet, flexible, made using, 468.  
—, sizing with, 2141.  
—, varnish of cellulose ester and, 249.  
—, varnish of cellulose ether and, 249.  
*Chinese vegetable tallow*, stencil sheet made using, 2489.  
*Chinese wood oil*, airplane lacquer containing, 439.  
—, cellulose ether solvent, 1841.  
—, ethyl cellulose solvent, 19, 1300.  
—, fabric coated using, 2485.  
—, plastic made containing, 2565.  
*Chinese wood oil*, starch ether solvent, 1483.  
—, see also *Tung oil*.  
*Chinic acid*, see *Quinic acid*.  
*Chinolic acid*, see *Quinolinic acid*.  
*Chinoline*, 2033.  
*Chinone*, see *Quinone*.  
*Chinopicric acid*, see *Quinopicric acid*.  
*Chitin*, 1121.  
*Chloracetaldehyde*, 1865.  
—, celluloid solvent, 890.  
—, cellulose acetate solvent, 890, 1785.  
—, mfr., 668.  
*Chloracetanilid*, 2014.  
*o-Chloracetanilid*, cellulose ether plastifier, 146, 1371.  
—, see also *Acetylchloraniline*.  
*Chloracetic acid*, 272, 518, 1711, 1720, 1722, 1725, 1740, 2626, 2627, 2639.  
—, action on cellulose, 359.  
—, cellulose acetate dyed using, 601.  
—, cellulose acetate printing using, 608.  
—, cellulose aceto-esters made using, 806.  
—, cellulose acetylated in presence of, 825.  
—, cellulose ether dyed using, 2279.  
—, cellulose ethers of, 56.  
—, cellulose phthalate made using, 557.  
—, cellulose pretreatment with, 557.  
—, cellulose treated with, 449.  
—, delustring by, 2344.  
—, mfr., 771.  
—, pattern effects on cellulose acetate by, 774.  
—, trichlorethylene for mfr. of, 482.  
—, see also *Mono-, Di, and Trichloracetic acid*.  
*Chloracetic anhydride*, 187, 1044, 1695, 1696, 1711, 1726, 1729, 1740.  
—, cellulose aceto-esters made using, 806.  
—, mfr., 211.  
*Chloracetic ester*, alkalicellulose compound with, 305.  
—, cellulose acetylated in presence of, 842.  
*Chloracetic ether*, cellulose etherified using, 255.

- Chloracetol, 1820.  
Chloracetone, 1080, 1783.  
Chloracetonitrile, 1726, 1750, 1751.  
—, cellulose etherified with, 273.  
Chloracetophenone, 1890.  
Chloracetyl chloride, 1694, 1720.  
—, acetic anhydride mfr. using, 1048.  
1-Chloracetylgentiobiose, mfr., 1024.  
—, properties, 1024.  
Chloracetyltriphenylmethyl starch, mfr., 1635.  
Chloracetyl chlorides, 1695.  
Chloral, 1887, 2007.  
—, camphor substitute, 2051.  
—, cellulose acetate inflammability reduced by, 942.  
—, cellulose acetate plastic containing, 404.  
—, cellulose acetate plastifier, 339.  
—, cellulose acetate solvent, 524.  
—, cellulose compound of, mfr., 494.  
—, cresol with as plastic, 561.  
—, formaldehyde with as plastic, 561.  
—, inflammability of cellulose nitrate reduced by, 549.  
—, plastic made containing, 2563.  
—, tar-oil with as plastic, 561.  
—, *see also Trichloraldehyde*.  
Chloral alcoholate, 1866, 1867.  
—, camphor substitute, 2051.  
—, celluloid substitute made containing, 468.  
—, cellulose acetate plasticizer, 355, 377.  
—, cellulose formate solvent, 388, 463.  
Chloral alkoxide, 1866.  
*Choral alkylloxide, see Chloral alcoholate*.  
Chloralamide, 1867.  
*Chloralantipyrine, see Hypnal*.  
Chloral formamide, 1867.  
—, *see also Chloralamide*.  
Chloral hydrate, 1865, 1866, 1867, 1889, 2007, 2018.  
—, camphor substitute, 2051.  
—, celluloid substitute made containing, 468.  
—, cellulose acetate plastifier, 340, 355, 398.  
—, cellulose acetate solvent, 524.  
—, cellulose formate solvent, 388, 421, 463.  
Chloral hydrate, inflammability of cellulose nitrate reduced by, 549.  
—, plastic made containing, 2563.  
Chloralkylamine, 1613.  
Chloral lactate, 1734.  
*Chloral urethane, see Urethane, chloral*.  
Chloramides, cellulose ether dyed using, 2284.  
Chloramine, cellulose acetate dyed using, 690.  
—, viscose dyed using, 690.  
Chloramine ester, 1612.  
Chloramine Fast Violet R, wool dyed using, 690.  
2-Chlor-4-amino-1-phenol, cellulose ether dyed using, 2283.  
2-Chlor-*p*-aminophenol, cellulose acetate dyed using, 717.  
4-Chlor-*o*-aminophenol, lacquer, colored, containing, 2425.  
4-Chlor-*o*-aminophenol-6-sulfonic acid, 2249.  
—, cellulose acetate dyed using, 1010.  
4-Chlor-2-amino-1-phenol-6-sulfonic acid, diazotized, plastic made using, 2573.  
*Chloramyl, see Amyl chloride*.  
Chloraniline, 2014, 2016.  
—, cellulose acetate solvent, 966.  
—, cellulose ether dyed with, diazotized, 120.  
—, cellulose ether solvent, 106.  
—, diazo compounds of, cellulose acetate dyed using, 504.  
—, —, cellulose ether dyed using, 2280.  
—, diazotizing, cellulose ether dyed using, 2300.  
—, stabilizer, 1564.  
*m*-Chloraniline, cellulose acetate dyed using, 809.  
—, cellulose ether dyed using, 2261, 2266, 2277.  
*o*-Chloraniline, cellulose acetate dyed using, 673, 809.  
—, cellulose ether dyed using, 2294.  
*p*-Chloraniline, cellulose acetate dyed using, 845, 881, 883.  
—, cellulose ester dyed black using, 211.  
—, cellulose ether dyed using, 2263.  
—, cellulose ether dyed black using, 211.  
—, developer, 2346.

- 3-Chloraniline, cellulose ester dyed using, 284.  
 —, cellulose ether dyed using, 284.  
 3-Chloraniline hydrochloride, cellulose ether dyed using, 2263.  
 2-Chloraniline-5-sulfonic acid, cellulose ether dyed with, 120.  
 4-Chloraniline-2-sulfonic acid, diazo-compounds of, cellulose ether dyed using, 2262.  
 4-Chlor-*o*-anisidine, 1085.  
 Chloranisol, 1822, 1860.  
 Chloranthracene, cellulose acetate plastifier, 575.  
 Chloranthrapyridone, 142.  
 Chloranthraquinone, aminoanthraquinones, hydroxyalkylated, made using, 676.  
 —, cellulose ether dyed using, 2246.  
*a*-Chloranthraquinone, cellulose ether dyed using, 2265, 2267.  
 2-Chloranthraquinone, 2193.  
 —, cellulose acetate delustred by, 828.  
 5-Chlor-1-anthraquinonyl-*b*-mercapto propionate, cellulose ether dyed with, 258.  
 5-Chlor-1-anthraquinonyl-*b*-mercaptopropionic acid, cellulose ether dyed using, 2258.  
 Chlorate, cellulose acetate protected by, in mercerizing, 616.  
 —, cellulose oxidized by, 12, 1140.  
 —, discharging with, 852.  
 —, hydrolysis acetic anhydride diminished by, 986.  
 Chlorazol Black E, 2232.  
 Chlorbenzal, *see* Benzylidene chloride.  
*o*-Chlorbenzaldehyde, cellulose acetate dyed using, 674, 2248.  
*p*-Chlorbenzaldehyde, mildewproofing using, 2202.  
 Chlorbenzene, 198, 1607, 1710, 1712, 1713, 1714, 1715, 1729, 1731, 1769, 1871, 1876, 1958.  
 —, acetic anhydride made using, 534.  
 —, acetic anhydride solvent, 768.  
 —, cellulose acetate filaments made using, 531.  
 —, cellulose acetate mfr. in presence of, 877.  
 —, cellulose acetate plasticizer, 398.  
 —, cellulose acetate solvent, 642, 1039.  
 Chlorbenzene, cellulose acetate stretch spinning in bath of, 785.  
 —, cellulose acetate swelling agent, 642.  
 —, cellulose dilaurate dissolved by, 201.  
 —, cellulose esterified using, 278.  
 —, cellulose ether delustred by, 133.  
 —, cellulose ether dyeing using, 2238.  
 —, cellulose ether solvent, 51.  
 —, cellulose formate dyed using, 607.  
 —, cellulose monoaceto-distearate dissolved by, 201.  
 —, cellulose propionate dyed using, 607.  
 —, dye solvent, 684.  
 —, ethylcellulose delustred by, 133.  
 —, flash point, 2060.  
 —, guttapercha dissolved by, 201.  
 —, lacquer containing, 2399.  
 —, plastic made containing, 2566.  
 —, rubber dissolved by, 201.  
 —, solubilizing agent, 2219.  
 —, tricresyl phosphate and as solvent, 1905.  
 —, trimethylcellulose solvent, 1315.  
 —, window curtain mfr. using, 820.  
*p*-Chlorbenzene, crystal effects produced with, 2429.  
*p*-Chlorbenzenesulfanilid, 2043.  
*p*-Chlorbenzenesulfo-*B*-naphthol, 2043.  
 2-Chlorbenzene-5-sulfonic acid-1-azo-3-amino-4-cresolmethyl ether, cellulose ether dyed using, 2260.  
 Chlor-benzohydrol, camphor substitute, 2051.  
 Chlorbenzoic acid, mfr., 1740.  
*o*-Chlorbenzoic acid, cellulose esterified using, 759.  
 Chlorbenzol, *see* Chlorbenzene; *mono*-Chlorbenzene.  
 Chlorbenzyl alcohol, 1888.  
 —, cellulose acetate plasticizer, 398, 452.  
*m*-Chlorbenzyl alcohol, camphor substitute, 2051.  
*o*-Chlorbenzyl alcohol, camphor substitute, 2051.  
*p*-Chlorbenzyl alcohol, camphor substitute, 2051.  
 Chlorbenzylcellulose, 1526.  
*o*-Chlorbenzylcellulose, 1534, 1535.  
 —, mfr., 257, 1532.

- o*-Chlorbenzylcellulose, solubility, 1532.  
*p*-Chlorbenzylcellulose, 1524, 1525.  
—, mfr. of, 207.  
—, stencil made with, 224, 1569.  
—, stencil sheet made using, 2494.  
Chlorbenzyl chloride, 1524, 1525.  
—, mfr., 1595.  
*o*-Chlorbenzyl chloride, 1532, 1533.  
—, mfr., 257.  
*p*-Chlorbenzyl chloride, 207, 1525, 1527.  
—, alkali cellulose treated with, 207.  
2-Chlorbenzylchloride, 1608.  
*m*-Chlorbenzylidene diacetate, 1928.  
*p*-Chlorbenzylidene diacetate, 1928.  
Chlorbenzyl lactate, 1952.  
—, cellulose acetate plastifier, 729.  
Chlorbenzyloxyethylcellulose, mfr., 289, 1608.  
—, solubility of, 1608.  
Chlorbenzyl phosphate, 1897.  
—, cellulose acetate plastifier, 581.  
*Chlorbromopropane*, see *Trimethylene chlorbromide*.  
2-Chlor-1-bromopropane, 1396.  
—, cellulose etherified by, 1383.  
3-Chlor-1-bromopropane, 1396.  
—, cellulose etherified by, 1383.  
*Chlorbutanol*, see *Chloretone*.  
*Chlorbutol*, see *1.1.1-Trichlor-2-methylpropyl alcohol*.  
*Chlorbutylene hydroxide*, see *Epichlor-hydrin*.  
Chlorbutyric acid, mfr., 1740.  
Chlorcaproic acid, mfr., 1740.  
Chlorcaprylic acid, mfr., 1740.  
1-Chlor-6-*b*-cellobiosidoglucose deca-acetate, mfr., 1024.  
—, properties, 1024.  
Chlor-*o*-chlorbenzoic acid, mfr., 1740.  
Chlorcinnamic acid, mfr., 1740.  
*Chlorcitrate emulsion*, see *Emulsion chlorcitrate*.  
6-Chlor-3-cresol, mildewproofing using, 2202.  
Chlorcresyl phosphate, 1896.  
Chlorcrotonic acid, mfr., 1740.  
Chlorcumene, 1958.  
Chlorcyclohexane, 1981.  
—, cellulose ester solvent, 267.  
—, cellulose ether solvent, 267.  
Chlorcyclohexanecarboxylic acid, mfr., 1740.  
Chlorcymene, 1958.  
*Chlordextrose pentacetate*, see *Pentacetylchlordextrose*.  
*Chlordextrose tetracetate*, see *Tetracetylchlordextrose*.  
5-Chlor-1.4-diaminoanthraquinone, cellulose ether dyed using, 2251.  
1'-Chlor-1.3-dimethylbenzenesulfonic acid, (4), cellulose etherified with, 253.  
Chlordimethyl sulfate, cellulose methylenated with, 1621.  
Chlordinitrobenzene, 1527.  
1.2.4-Chlordinitrobenzene, 1524, 1527.  
1-Chlor-2.4-dinitrobenzene, 1597, 1598, 1660, 2643.  
—, cellulose acetate dyed using, 750, 982.  
—, cellulose acetate etherified by, 277.  
—, cellulose ether dyed using, 2254, 2279.  
—, cellulose ether-ester made using, 277.  
—, cellulose etherified by, 277.  
1-Chlor-2.4-dinitrobenzene-6-sulfonic acid, cellulose acetate dyed using, 662.  
1-Chlor-2.6-dinitrobenzenesulfonic acid, cellulose ester dyed with, 145.  
—, cellulose ether dyed with, 145.  
1-Chlor-2.6-dinitrobenzene-4-sulfonic acid, cellulose acetate dyed using, 662.  
2-Chlor-3.5-dinitrobenzoic acid, cellulose ester dyed with, 121.  
—, cellulose ether dyed with, 121, 2256.  
4-Chlor-3.5-dinitro-1-benzoic acid, cellulose ester dyed using, 241.  
—, cellulose ether dyed using, 241.  
1.2.4-Chlordinitrobenzylcellulose, 1524.  
Chlordinitrophenylcellulose, 1597.  
1-Chlor-2.4-dinitrosulfonic acid, cellulose ether dyed using, 2254.  
*p*-Chloridiphenyl, amines solvent for, 2009.  
Chlorethane, 278.  
—, benzylcellulose solvent, 1545.  
Chlorethyl acetate, 1922.  
—, cellulose acetate solvent, 444.  
—, flash point, 2060.  
*b*-Chlorethyl acetate, 1915.  
—, cellulose acetate solvent, 444.



- b*-Chlorethyl acetate, film made using, 2514.  
 —, mfr., 444.  
*p*-Chlorethyl acetate, cellulose ether solvent, 92.  
*Chlorethyl alcohol*, see *Ethylene chlorhydrin*.  
 Chlorethylamine, 1665.  
 —, alkali cellulose treated with, 231.  
 —, cellulose ether made using, 249.  
 Chlorethyl benzoate, cellulose acetate solvent, 444.  
 Chlorethylbenzyl-cellulose, mfr. of, 58.  
 Chlorethyldiethylamine, 1612, 1613, 1664, 1665, 1746.  
 —, alkalicellulose treated with, 231.  
 —, cellulose etherified by, 210.  
 —, cellulose ether made using, 249.  
 Chlorethyldiethylamine hydrochloride, 1612, 1613.  
 —, cellulose etherified by, 210.  
 Chlorethyldiethylaminochlorhydrate, 1664.  
 Chlorethylene, 1821.  
*b*-Chlorethyl ether, glycolmethylene ether made using, 1066.  
 Chlorethylethylaniline, 1612, 1665.  
 —, alkalicellulose treated with, 231.  
 —, cellulose etherified by, 210.  
 —, cellulose ether made using, 249.  
 Chlorethylethylaniline hydrochloride, 1612.  
 Chlorethylethylsulfuric acid, cellulose ethylated with, 1441.  
 Chlorethyl hydroxide, cellulose acetate stretch spinning in bath of, 785.  
 6-Chlor-*N*-ethyl-4-hydroxy-2-quinoline, cellulose acetate dyed using, 881.  
*Chlorethylideneimide (tri)*, see *Chloralimide*.  
 Chlorethylpiperidine, 1647, 1746.  
 1-*b*-Chlor-ethylpiperidine, alkali-cellulose treated with, 299.  
 Chlorethylpiperidino-chlorhydrate, 1665.  
 Chlorethylpiperidino-hydrochloride, 1614.  
 Chlorethylsulfuryl chloride, mfr., 507.  
 Chloretone, 1867.  
 —, benzylcellulose and, 1581.  
 —, benzylcellulose solvent, 58, 141, 1567.  
 —, benzylcellulose stabilizer, 1575.  
 Chloretone, benzylstarch and, 1581.  
 —, ethylcellulose and, 1581.  
 —, ethylcellulose solvent, 58, 141.  
 —, methylcellulose as solvent, 58.  
 —, see also *1.1.1-Trichlor-2-methylpropyl alcohol*.  
 Chloroglucose tetrasulfate, mfr., 649.  
 Chlorheptylic acid, mfr., 1740.  
 Chlorhydrin, 1390, 1391, 1839, 1889, 2032.  
 —, benzyl-dextrin solvent, 1516.  
 —, cellulose acetate solvent, 400, 1818.  
 —, cellulose ether solvent, 106.  
 —, cellulose formate solvent, 640.  
 —, formyl-nitrate solvent, 640.  
 —, mfr., 446, 474, 503, 549, 1843.  
 —, sucrose, benzylated, solvent, 1517.  
*α*-Chlorhydrin, 1402.  
 Chlorhydrincellulose acetate, 1388, 1389.  
 Chlorhydrocinnamic acid, mfr., 1740.  
 Chlorhydroquinone diacetate, 330.  
 3-Chlor-4-*b*-hydroxyethoxyaniline, cellulose acetate dyed using, 674.  
 —, cellulose ether dyed using, 2265, 2277.  
 6-Chlor-4-hydroxy-*N*-ethyl-2-quinolone, cellulose ether dyed using, 2263.  
 Chlor-*b*-hydroxy-1-naphthylamine, cellulose ether dyed using, 2268.  
 Chlorhydroxypropylcellulose, 1398.  
 Chlor-*b*-hydroxy-*n*-propyl-1-naphthylamine, cellulose acetate dyed using, 937.  
 —, cellulose ether dyed using, 2254.  
*N*-Chlor-*b*-hydroxypropyl-*α*-naphthylamine, cellulose ether dyed using, 2253.  
*y*-Chlor-*b*-hydroxypropyl-1-naphthylamine, cellulose acetate dyed using, 751.  
 Chloric ether, ethyl chloride as solvent for, 1273.  
*Chloride of lime*, see *Calcium hypochlorite*; *Lime*, *chlorinated*.  
 Chlorides, hydrolysis acetic anhydride diminished by, 986.  
*Chlorinated acetophenone*, see *Acetophenone*, *chlorinated*.  
*Chlorinated stearic acid*, see *Stearic acid*, *chlorinated*.

Chlorine, acetic anhydride made using, 647, 845.

—, catalyst in acetating, 401.

—, catalyst in cellulose acetate, mfr., 495, 589.

—, cellulose acetate made using, 791.

—, cellulose action by, 1138.

—, cellulose ether bleached by, 2121.

—, cellulose oxidized by, 12, 1140.

—, cellulose pretreated with, 901.

—, cellulose purified by, 1410.

—, cellulose sulfacetates pretreated with, 846.

—, chlorhydrin made using, 474.

—, methyl chloride solvent for, 1253.

—, 1,1,2-trichlorethane made using, 668.

—, trichlorhydrin made using, 539, 572.

—, trichlorpropane made using, 572.

Chlorine dioxide, 1627.

Chlorine gas, flax purified by, 1179.

1-Chlor-*a*-iodoethane, 1396.

1-Chlor-2-iodoethane, cellulose etherified by, 1383.

Chlorlauric acid, mfr., 1740.

Chlormalonic acid, 56, 2627.

Chlormethane, see Methyl chloride.

Chlor-*N*-methane, 1759.

Chlor-*o*-methoxybenzoic acid, mfr., 1740.

Chlormethoxysulfonyl chloride, 1621.

—, alkalicellulose treated with, 301.

—, cellulose methylenated with, 1621.

—, etherifying with, 301.

Chlormethyl alcohol, cellulose methylenated with, 1621.

—, cellulose purified by, 1409.

1'-Chlor-1-methylbenzenesulfonic acid (2), cellulose etherified with, 253.

1'-Chlor-1-methylbenzenesulfonic acid (4), cellulose etherified with, 253.

2-Chlormethylbenzylamine, 1598.

—, cellulose etherified with, 273, 1598, 1599.

Chlormethylbenzylcellulose, mfr. of, 273, 1599.

1-Chlor-2-methylbutane, 1821.

Chlormethyl ether, cellulose pretreated with, 259.

—, cellulose purified by, 1409.

*Chlormethylfurfuraldehyde*, see *Chlormethylfurfural*.

Chlormethylmethyl ether, 1286.

3-Chlormethyl-3-octanol, ethyl bromide in mfr., 1275.

Chlormethyl sulfate, cellulose etherified using, 1298.

—, mfr., 1262.

Chlormethyl sulfate chloride, mfr., 1262.

Chlormyristic acid, 1892.

—, mfr., 1740.

Chlornaphthalene, 1769, 2024.

—, camphor substitute, 2051.

—, cellulose acetate plasticizer, 398, 575.

—, cellulose esterified using, 278.

—, cellulose ether solvent, 2227.

—, ethylcellulose xanthanilide solvent, 1644.

—, solubilizing agent, 2219.

—, stencil made using, 663.

—, stencil sheet made with, 96, 109, 633, 661, 763, 2493, 2497.

*a*-Chlornaphthalene, cellulose ether solvent, 106.

*b*-Chlornaphthalene, cellulose ether solvent, 106.

Chlornaphthyl acetate, 1906.

Chlornaphthylamine, cellulose ether solvent, 106.

*o*-Chlor-*p*-nitraniline, cellulose acetate dyed using, 502.

2-Chlor-4-nitraniline, cellulose ether dyed using, 2250.

3-Chlor-6-nitraniline, cellulose acetate dyed using, 546.

4-Chlor-2-nitro-4-acetamido-diphenylamine, cellulose acetate dyed using, 750.

—, cellulose butyrate dyed using, 750.

—, cellulose formate dyed using, 750.

—, cellulose propionate dyed using, 750.

4-Chlor-2-nitro-4'-acetamido-diphenylamine, cellulose ether dyed using, 2284.

2-Chlor-2-nitro-1-aminoazobenzene, cellulose ether dyed using, 2276.

4-Chlor-2-nitro-1-aminobenzene, cellulose ether dyed using, 2260.

4-Chlor-2-nitro-1-aminobenzene-1-carboxylate, diazotizing, 113.

- 4-Chlor-2-nitro-1-aminobenzene-1-carboxylate, diethyl-aniline-*m*-sulfonic acid diazotized, 113.
- o*-Chlornitroaniline, diazotized, cellulose acetate dyed using, 718.
- o*-Chlor-*p*-nitroaniline, cellulose acetate dyed using, 612.
- 4-Chlor-2-nitroaniline, diazotized, cellulose acetate dyed using, 718.
- Chlornitroanisol, cellulose acetate plasticizer, 398.
- Chlornitrobenzene, 1597, 1660.
- , cellulose acetate dyed using, 750.
- , cellulose acetate plasticizer, 398.
- p*-Chlornitrobenzene, 1826.
- 1-Chlor-4-nitrobenzene-2-sulfonic acid, cellulose ester dyed with, 145.
- , cellulose ether dyed with, 145.
- 4-Chlor-2-nitro-*N*-benzylaniline, cellulose acetate dyed using, 608.
- 4-Chlor-2-nitro-diphenylamine, cellulose ether dyed using, 2285.
- 4-Chlor-2'-nitro-diphenylamine, cellulose acetate dyed using, 750.
- , cellulose butyrate dyed using, 750.
- , cellulose formate dyed using, 750.
- , cellulose propionate dyed using, 750.
- 4-Chlor-2-nitro-4'-ethoxy-diphenylamine, cellulose acetate dyed using, 750.
- , cellulose butyrate dyed using, 750.
- , cellulose ether dyed using, 2284.
- , cellulose formate dyed using, 750.
- , cellulose propionate dyed using, 750.
- Chlornitromethane (tri)*, see *Chlorpicrin*.
- 4-Chlor-2-nitro-4'-methoxydiphenylamine, cellulose ether dyed using, 2285.
- 4-Chlor-2-nitro-3'-methyl-diphenylamine, cellulose acetate dyed using, 750.
- , cellulose butyrate dyed using, 750.
- , cellulose ether dyed using, 2284.
- , cellulose formate dyed using, 750.
- , cellulose propionate dyed using, 750.
- 4-Chlor-2-nitrophenyl-4'-tolylamine, film colored by, 2519.
- 4-Chlor-3-nitro-*o*-toluidine, cellulose ether dyed by, 305, 2294.
- Chloroform, 1993, 2027, 2037.
- , acetic acid extracted using, 605.
- , acetic acid recovery using, 724.
- , acetic acid solvent, 905, 1005.
- , acetic anhydride made using, 770.
- , acetic anhydride extracted with, 605.
- , alkylcellulose solvent, 1426.
- , alkylcellulose viscosity reduced by, 1352.
- , amines solvent for, 2009.
- , amylose disulfate made using, 582.
- , benzylcellulose solvent, 10, 230, 1541, 1554, 1587.
- , benzylcellulose viscosity reduced by, 224.
- , benzyl dextrin solvent, 1516.
- , benzyl starch solvent, 1516.
- , b. pt. methyl alcohol with, 1831.
- , cellulose acetate purified by extraction with, 1062.
- , cellulose acetate solubility in, 1783.
- , cellulose acetate solvent, 319, 324, 336, 813, 1016, 1691, 1818, 1819, 1843.
- , cellulose acetate swelling agent, 912.
- , cellulose acetylated in presence of, 988.
- , cellulose benzoate solvent, 1021.
- , cellulose dilaurate solvent for, 538.
- , cellulose dipalmitate solvent for, 538.
- , cellulose distearate solvent for, 538.
- , cellulose esterified in presence of, 978.
- , cellulose ether purified by, 1464.
- , cellulose ether softener, 2133, 2217, 2349.
- , cellulose ether solvent, 8, 230, 244, 1447, 1841, 2102, 2351, 2375.
- , cellulose ether solvent of ethyl alcohol and, 54.
- , cellulose solvent, 1330.
- , cellulose sulfonate solvent, 364.
- , cellulose trilaurate solvent for, 538.

- Chloroform, cellulose tripalmitate solvent for, 538.  
 —, cellulose tristearate solvent for, 538.  
 —, chlorhydrins made using, 503.  
 —, dimethylhydrocellulose solvent, 76.  
 —, ethyl acetate with, as solvent, 52.  
 —, ethylcellulose, crystalline, solvent, 1336.  
 —, ethylcellulose solvent, 19, 230, 1226, 1332, 1335, 1423.  
 —, ethylcellulose viscosity reduced by, 224, 1352.  
 —, ethylcellulose xanthanilide solvent, 1644.  
 —, film made using, 2515.  
 —, film cement containing, 430.  
 —, glass, laminated, made using, 2591.  
 —, guanin insoluble in, 2614.  
 —, horn, artificial, made using, 2607.  
 —, methyl alcohol with, as solvent, 52.  
 —, methylcellulose acetate solvent, 27.  
 —, methylcellulose solvent, 145, 1307.  
 —, methylcellulose viscosity reduced by, 224, 1352.  
 —, methylin solvent, 277.  
 —, methyl starch solvent, 1473, 1474.  
 —, monobenzylcellulose solvent, 1518.  
 —, physical constants, 1792.  
 —, plastics made using, 2579.  
 —, properties, 1813.  
 —, propionic acid extracted using, 605.  
 —, starch ether non-solvent, 1472.  
 —, starch ether solvent, 1483.  
 —, starch triacetate solvent, 739.  
 —, sucrose, benzylated, solvent, 1517.  
 —, toxicity of, 555.  
 —, trimethylcellulose solvent, 1315, 1319.  
 —, triphenylmethylcellulose solvent, 1634.  
 —, uses, 1812.  
 Chloroform-alcohol, alkylcellulose solvent, 1426.  
 —, cellulose benzoate solvent, 1021.  
 Chloroform-alcohol, dimethylhydrocellulose solvent, 76.  
 —, ethylcellulose solvent, 1423, 2233.  
 —, trimethylcellulose solvent, 1319.  
 Chloroformic acid, 1679.  
 Chloroformic esters, 1957.  
 Chloroform-methanol, cellulose ethers made using, 2460.  
 Chloroform-methyl alcohol, cellulose acetate swelling agent, 660, 800.  
 Chlorophene, phosphorescence produced by, 1372.  
 1-Chlor-4-oxy-anthraquinone, 2318.  
 Chloroxymethamine, 1759.  
 Chloroxymethane alcohol ester, 1759.  
 Chlor-oxymethaneamide, 1759.  
 Chloroxymethane-amidicarbonic acid, 1759.  
 Chlorpalmitic acid, 1892.  
 —, mfr., 1740.  
 Chlorpelargonic acid, mfr., 1740.  
 Chlorpentane, 1821.  
*a-Chlorpentane, see Amyl chloride (n).*  
 Chlorphenetol, cellulose acetate plasticizer, 398.  
 Chlorphenol, cellulose ether solvent, 106.  
*m*-Chlorphenol, mildewproofing using, 2202.  
*o*-Chlorphenol, 1769.  
 —, ethylcellulose xanthanilide solvent, 1644.  
*p*-Chlorphenol, cellulose acetate dyed using, 751.  
 —, cellulose ether dyed using, 2268.  
 —, mildewproofing using, 2202.  
 —, wetting out agent, 1236.  
 Chlorphenols, cellulose acetate delusted using, 607.  
 —, cellulose ether solvent, 2227.  
 —, cellulose formate dyed using, 607.  
 —, cellulose propionate dyed using, 607.  
 —, fabric treated with, 2344.  
 —, solubilizing agent, 2219.  
 Chlorphenylacetic acid, mfr., 1740.  
 Chlorphenylglyceryl ether, 1870.  
 1-*o*-Chlorphenyl-3-methyl-5-pyrazolone, cellulose acetate dyed using, 717, 2248.  
 Chlorphenylphosphate, 1896.

- Chlorphosphoacetic acid, butyric anhydride made using, 771.  
 —, propionic anhydride made using, 771.  
 Chlorphthalic acid, 2427.  
 —, glycerol condensed with, 234.  
 —, pentaerythritol condensed with, 234.  
 —, sorbitol condensed with, 234.  
 Chlorpropane, 1820.  
 —, cellulose ether solvent, 115.  
 2-Chlorpropane, 1821.  
 3-Chlorpropane, 1821.  
 Chlorpropionic acid, 56, 1720, 2626.  
 —, butyric anhydride made using, 771.  
 —, propionic anhydride made using, 771.  
*a*-Chlorpropionic acid, cellulose derivatives of, 88.  
*b*-Chlorpropionic acid, cellulose acetate dyed using, 2245.  
*A*-Chlorpropionitrile, 1726, 1750.  
*a*-Chlorpropionitrile, cellulose etherified with, 273.  
*B*-chlorpropionitrile, 1726, 1750.  
*b*-Chlorpropionitrile, cellulose etherified with, 273.  
 Chlorpropionylamine, cellulose ether made using, 249.  
 Chlorpropyl acetate, 1917.  
 —, cellulose acetate solvent, 574.  
 Chlorpropylamine, 1665.  
 —, alkali cellulose treated with, 231.  
*o*-Chlorpropylaniline, cellulose etherified with, 273, 1598, 1599.  
*b*-Chlorpropylene, mfr., 583.  
*Chlorpropyleneglycol*, see *Mono-chlorhydrin*; *a*-*Monochlorhydrin*.  
*v*-Chlorpropyleneglycol, 247.  
*Chlorpropylene oxide*, see *Epichlorhydrin*.  
 Chlorstearic acid, 1892.  
 —, aldehyde made with, 480.  
 Chlorstyrene, 1889.  
 Chlorsulfacetic acid, butyric anhydride made using, 771.  
 —, propionic anhydride made using, 771.  
*p*-Chlorsulfamid, 2043.  
 Chlorsulfate, chlorglucose tetrasulfate made using, 649.  
 Chlorsulfonic acid, 231, 1261, 1680, 1686.  
 —, amylose disulfate made using, 582.  
 Chlorsulfonic acid, catalyst in cellulose acetating, 373, 392.  
 —, catalyst in cellulose esterifying, 680.  
 —, catalyst in cellulose formate mfr., 389.  
 —, cellulose compounds of, mfr., 504.  
 —, dispersing agent, 2209.  
 —, methyl sulfate action on, 1265.  
 —, methyl sulfate made using, 1258.  
 Chlorthiomethanamine, 1759.  
 Chlorthiomethaneamide, 1759.  
 Chlorthiomethaneamidocarbonic acid, 1759.  
 Chlortoluene, 1093, 1297, 1928, 1958.  
 —, benzyl alcohol impurity, 1862.  
 —, cellulose acetate plasticizer, 398.  
 —, cellulose acetylated in presence of, 842.  
 —, cellulose ether dyeing using, 2238.  
 —, cellulose tripropionate solvent, 284.  
 —, dye solvent, 684.  
*o*-Chlortoluene, see *Benzyl chloride*.  
*1*-Chlortoluene, see *Benzyl chloride*.  
 Chlortoluidine diazotizing, cellulose ether dyed using, 2300.  
 —, stabilizer, 1564.  
 4-Chlor-2-toluidine, cellulose acetate dyed using, 674.  
 5-Chlor-2-toluidine, cellulose ester dyed black using, 211.  
 —, cellulose ether dyed black using, 211.  
 5-Chlor-1,2-toluidine, cellulose dyed with, 196.  
 —, dyeing with, 196.  
 6-Chlor-*o*-toluidine, cellulose ether dyed using, 148, 2262.  
 6-Chlor-2-toluidine, cellulose ether dyed with, 113.  
 Chlortolyl phosphate, cellulose acetate plastifier, 581.  
*a*-1-Chlor-2,3,4-triacetyl-*D*-glucose, mfr., 1024.  
 —, properties, 1024.  
 1-Chlor-3,4,6-triacetylglucose, methylation of, 205, 1329.  
 6-Chlor-1,4,5-trihydroxyanthraquinone, cellulose acetate dyed using, 936.  
 —, cellulose ether dyed using, 2281.  
 —, mfr., 936.

- Chlortriphenylmethylcellulose, mfr. of, 71.  
Chlortriphenylmethylcellulose acetate, mfr. of, 71.  
Chlorvaleric acid, mfr., 1740.  
Chlorxylene, 1958.  
—, cellulose acetylated in presence of, 842.  
Chlorxylenyl phosphate, 1896.  
Chocolate, record, phonograph, made using, 2606.  
Cholesterin, cellulose acetate organosols made using, 846.  
Cholesterol, amines solvent for, 2009.  
—, crystal effects produced with, 2429.  
*Cholestrin*, see *Cholesterol*.  
Chondrin, film containing, 486.  
Chromates, discharging with, 852.  
—, keten mfr. using, 779.  
Chrome alum, alkylcellulose, swelling in water, preventing, 85.  
—, ethylcellulose with, 2465.  
—, methylcellulose with, 2465.  
Chrome-blue BMJ, benzylcellulose dyed with, 123.  
Chrome-green, lacquer, cellulose ether, containing, 2404.  
—, lacquer containing, 2413.  
—, non-chalking composition containing, 1580.  
Chrome violet, cellulose acetate dyed by, 512.  
Chrome yellow, 1588.  
—, lacquer, cellulose ether, containing, 2404.  
—, stencil colored by, 664.  
—, stencil sheet made using, 2491.  
*Chromic*, see *chromium*.  
Chromic acid, catalyst in cellulose acetate mfr., 1003.  
—, cellulose acetylated in presence of, 978.  
—, cellulose oxidized by, 12, 1140.  
—, cellulose purified by, 1411.  
—, cellulose treated with, 1139.  
Chromic chloride, catalyst in aldehyde mfr., 782.  
—, loading with, 2145.  
Chromic phosphate, loading with, 2145.  
Chromium, catalyst, 492, 865.  
—, catalyst in acetaldehyde mfr., 586.  
—, discharge of salt of, for cellulose ether, 184.  
Chromium acetate, acetic anhydride from, 1048.  
—, catalyst in cellulose acetate mfr., 686.  
—, cellulose ether fixative, 104.  
—, loading with, 2152, 2155.  
—, mordant in cellulose ether dyeing, 104.  
—, mordanting with, 143.  
—, waterproofing with, 218.  
Chromium acetochloride, loading with, 2152.  
Chromium acetoneitrate, loading with, 2152.  
Chromium acetosulfate, loading with, 2152.  
Chromium benzenesulfonate, catalyst in cellulose acetate mfr., 686.  
Chromium benzoate, loading with, 2155.  
Chromium bisulfite, cellulose ether mordanted with, 144.  
—, mordant, 144.  
Chromium Blue BMI, benzylcellulose dyed using, 2230.  
Chromium borate, catalyst, 866.  
—, catalyst in acetic acid mfr., 834.  
Chromium butyrate, catalyst in cellulose acetate mfr., 686.  
Chromium 4-chlor-2-aminophenol-5-sulfate, cellulose ether dyed with, 156.  
Chromium chloride, benzylcellulose waterproofed by, 2158.  
—, catalyst in ethyl chloride mfr., 1268.  
—, cellulose ether dyed using, 2299.  
—, cellulose ether mordanted with, 144.  
—, ethylcellulose waterproofed by, 2158.  
—, methylcellulose waterproofed by, 2158.  
—, mordant, 144.  
—, mordanting with, 143.  
—, waterproofing cellulose ether with, 217.  
—, waterproofing with, 218.  
—, weighting cellulose ether by, 229.  
Chromium citrate, cellulose ether mordant, 142.  
—, loading with, 2155.  
Chromium compounds, mordanting with, 218.  
—, weighting with, 218.

- Chromium fluoride, cellulose ether mordanted with, 144.  
—, mordant, 144.  
Chromium glycollate, cellulose ether mordant, 142.  
—, loading with, 2152, 2155.  
*Chromium hexahydrobenzoate, see Chromium naphthenate.*  
Chromium hydroxide, cellulose ether colored by, 266.  
—, loading with, 2152.  
—, mordanting with, 266.  
Chromium-iron, acetic anhydride mfr. using, 626.  
Chromium-iron-nickel, acetic anhydride mfr. using, 626.  
Chromium lactate, cellulose ether mordant, 142.  
—, loading with, 2152, 2155.  
Chromium metaphosphate, catalyst in acid mfr., 788.  
—, catalyst in ester mfr., 788.  
Chromium naphthalenesulfonate, catalyst in cellulose acetate mfr., 686.  
Chromium naphthenate, 1965.  
—, cellulose acetate plastifier, 481.  
—, leather, artificial, made using, 481.  
Chromium nitrate, catalyst in cellulose acetate mfr., 686.  
Chromium oleate, cellulose ether weighted with, 227.  
—, delustring with, 2183.  
Chromium oxide, acetic acid, purified with, 700.  
—, catalyst in cellulose acetate mfr., 686.  
—, cellulose ether colored by, 266.  
—, loading with, 2156.  
—, mordanting with, 266.  
Chromium oxychloride, 1688.  
Chromium palmitate, cellulose ether weighted with, 227.  
—, delustring with, 2183.  
Chromium phosphate, catalyst, 866.  
—, catalyst in acetic acid mfr., 834, 916.  
—, catalyst in methyl acetate, mfr., 916.  
Chromium phthalate, loading with, 2155.  
Chromium salicylate, loading with, 2155.  
Chromium salts, catalyst in cellulose acetate mfr., 686.  
Chromium salts, cellulose acetate dyed using, 749.  
—, cellulose ether weighted by, 227.  
—, discharge effect using, 2317.  
Chromium silicate, catalyst, 866.  
—, catalyst in acetic acid mfr., 834.  
Chromium stearate, cellulose ether weighted with, 227.  
—, delustring with, 2183.  
Chromium sulfate, benzylcellulose waterproofed by, 2158.  
—, catalyst in cellulose acetate mfr., 686.  
—, ethylcellulose waterproofed by, 2158.  
—, methylcellulose waterproofed by, 2158.  
—, waterproofing cellulose ether with, 217.  
Chromium thiocyanate, benzylcellulose mordanted by, 113, 1587.  
—, benzylcellulose waterproofed by, 2158.  
—, ethylcellulose mordanted by, 113.  
—, ethylcellulose waterproofed by, 2158.  
—, loading with, 2154, 2155.  
—, methylcellulose mordanted by, 113.  
—, methylcellulose waterproofed by, 2158.  
—, mordanting cellulose ether with, 226.  
—, waterproofing cellulose ether with, 217.  
—, weighting cellulose ether with, 226.  
Chromium trioxide, acetic acid purified by, 566.  
Chromogens, cellulose ether dyed using, 2276.  
Chromotropic acid, nitrobenzylcellulose dyed with, 1597.  
Chromotropic salt, amines solvent for, 2009.  
*Chrysammic acid, see Chrysaminic acid.*  
Chrysarobin, 2446.  
Chrysoidine G, 531.  
*Chrysoidine orange, see Diamino-azo-benzene hydrochloride.*  
*Chrysopanic acid, see Chrysarobin.*  
Chrysophenine, 2340.  
Chrysorhamnine, acetic acid action on, 311.

- Chrysorhamnine, ester of, 311.  
 Ciba blue 2 BD, cellulose acetate dyed using, 718.  
 Ciba blue G, cellulose ester dyed using, 264.  
 —, cellulose ether dyed using, 264, 2244.  
 Ciba Bordeaux B, cellulose acetate dyed using, 686.  
 Cibacet, cellulose acetate dyestuff, 677, 920.  
 —, cellulose ether dyed with series, 2234.  
 Cibacet blue, cellulose ether dyed using, 2289.  
 Cibacet blue 2R, cellulose ether dyed using, 2289.  
 Cibacet dyestuffs, cellulose ether dyed using, 2289.  
 Cibacet orange 2R, cellulose ether dyed using, 2289.  
 Cibacet orange 3R, cellulose ether dyed using, 2289.  
 Cibacet red 3B, cellulose ether dyed using, 2289.  
 Cibacet red GR, cellulose ether dyed using, 2289.  
 Cibacet scarlet G, cellulose ether dyed using, 2289.  
 Cibacet violet B, cellulose ether dyed using, 2289.  
 Cibacet violet 2R, cellulose ether dyed using, 2289.  
 Cibacet yellow 3G, cellulose ether dyed using, 2289.  
 Cibacet yellow GN, cellulose ether dyed using, 2289.  
 Cibacet yellow R, cellulose ether dyed using, 2289.  
 Cibanone, cellulose acetate dyed using, 606, 637.  
 —, cellulose ether dyed with, 2242.  
 Ciba Scarlet G, cellulose acetate dyed using, 686.  
 —, dyeing with, 2243.  
*Cicutine*, see *Conine*.  
 Cigar, cellulose acetate in mfr., 710.  
 —, mfr., 710.  
 —, wrapper, cellulose acetate in mfr., 836.  
 Cigarette, cellulose acetate in mfr., 710.  
 —, mfr., 710.  
 —, mouth-piece for, mfr., 2433.  
 —, tipping, cellulose acetate for, 893, 983.  
 Cigarette, tipping, resin for, 983.  
 —, —, rubber for, 983.  
 —, tube for, cellulose acetate coated, 514.  
*Cigarette holder*, see *Holder*, *cigarette*.  
 Cigarette mouthpiece, mfr. of, cellulose acetate in, 2433.  
 Cigarette tip, benzylcellulose for, 2477.  
 —, cellulose acetate for coating, 425.  
 —, cellulose ether coated, 2431.  
 —, ethylcellulose for, 2477.  
 —, self-lighting, cellulose acetate for, 809.  
 —, —, cellulose nitrate for, 809.  
 —, —, potassium chlorate for, 809.  
 —, wrapping, bronze for, 296.  
 —, cellulose nitrate for, 296.  
 —, —, ethylcellulose for, 296.  
 Cigarette tube, 2434.  
 —, mfr., 2434.  
 Cigar tip, cellulose acetate coated, 367, 384, 425, 2434.  
 —, cellulose ether coated, 2431.  
 Cigar wrapper, cellulose acetate for, 2434.  
*Cincholepidine*, see *Lepidine*.  
 Cinchomeric acid, 1730.  
 Cinchonine, amines solvent for, 2009.  
 —, inflammability of cellulose nitrate reduced by, 549.  
 Cinchonine sulfate, inflammability of cellulose nitrate reduced by, 549.  
 —, plastic containing, 549.  
 Cinelin, 2567.  
*Cinematograph films*, see *Films*, *photographic*.  
 Cineol, 1857, 1886, 1894.  
 —, acetolysis of, 379.  
 —, celluloid solvent, 890.  
 —, cellulose acetate solvent, 890, 1785.  
 —, see also *Eucalyptol*.  
 Cinnamar, cellulose acetate dyed with, 568.  
*Cinnamal*, see *Cinnamic aldehyde*.  
 Cinnamaldehyde, celluloid solvent, 890.  
 —, cellulose acetate solvent, 890, 1785.  
 —, cellulose ether plastifier, 173.  
 —, see also *Cinnamic aldehyde*.



- Cinnamene, 2047.  
 —, *see also Styrene; Styrol.*  
 Cinnamic acid, 1737, 2000.  
 —, amines solvent for, 2009.  
 —, cellulose acetate lacquer containing, 474.  
 —, cellulose esterified by, 807.  
 —, cellulose ether plastifier, 173.  
 Cinnamic acid dibromide, 2059.  
 Cinnamic alcohol, 1964.  
 —, *see also Styrene.*  
 Cinnamic aldehyde, 1868.  
 —, *see also Oil of cinnamon.*  
 Cinnamic ester, 1978, 1979.  
 —, cellulose acetate lacquer containing, 474.  
 Cinnamic ether, *see Ethyl cinnamate.*  
 Cinnamon, heavy, oil, 1962.  
 —, *see also Oil of cinnamon.*  
 Cinnamon leaf oil, 2044.  
 Cinnamon oil, 1964, 2045.  
 —, cellulose acetate solvent, 1818, 1819.  
 Cinnamyl alcohol, celluloid solvent, 890.  
 —, cellulose acetate solvent, 890.  
 —, cellulose ether plastifier, 173.  
 Cinnamylaldehyde, 1868.  
 —, *see also Aldehyde, cinnamic.*  
 Cinnamylaldehyde dibromide, 1895.  
 Cinnamyl benzoate, 1959.  
 Cinnamyl chloride, 871.  
 Cinnamyl cinnamate, 1959, 1979.  
 Cinnamyl dibromide, 1895, 2059.  
 Cinnamyllic acid, *see Cinnamic acid, natural.*  
 Cinnamyllic alcohol, cellulose acetate solvent, 1818, 1819.  
 Cinnamyllic ether, *see Ethyl cinnamate.*  
 Cinnyl, *see Cinnamyl.*  
 Cinnyl cinnamate, *see Styracin.*  
 Citradic acid, *see Aconitic acid.*  
 Citric acid, 1094, 2316, 2330, 2626.  
 —, cellulose acetate discharge effects produced by, 756.  
 —, cellulose acetate hydrated by, 355.  
 —, cellulose acetate printing using, 608.  
 —, cellulose acetate viscosity preserved by, 442.  
 —, cellulose ester treated with, 275.  
 —, cellulose ether, jelling of, prevented by, 1349.  
 Citric acid, cellulose ether, livering of, prevented by, 1349.  
 —, —, precipitating of, prevented by, 1349.  
 —, cellulose ether color discharged by, 218.  
 —, cellulose ether treated with, 275.  
 —, cellulose nitrate solvent, 1893.  
 —, cellulose pretreated with, 1015.  
 —, creping fabric using, 1094.  
 —, delustring by, 2345.  
 —, discharge effect on, cellulose ether produced using, 175.  
 —, ethylcellulose, jelling of, prevented by, 1349.  
 —, —, livering of, prevented by, 1349.  
 —, —, precipitating of, prevented by, 1349.  
 —, guanin insoluble in, 2614.  
 —, jelling prevented by, 2410.  
 —, livering in cellulose ether prevented by, 162.  
 —, livering prevented by, 2410.  
 —, methylcellulose, jelling of, prevented by, 1349.  
 —, —, livering of, prevented, 1349.  
 —, —, precipitating of, prevented by, 1349.  
 —, pattern effects on cellulose acetate by, 774.  
 —, photo-emulsion containing, 356.  
 Citric esters, 1952.  
 Citric ether, *see Ethyl citrate.*  
 Citronellal, celluloid solvent, 890.  
 —, cellulose acetate solvent, 890, 1785.  
 Citronella oil, 1964.  
 —, cellulose acetate solvent, 1818, 1819.  
 Citronellyl acetate, celluloid solvent, 890.  
 —, cellulose acetate solvent, 890, 1785.  
 Citronine, printing, color, using, 2327.  
 Citron-yellow, cellulose acetate dyed, 609.  
 Claret, cellulose acetate dyed, 722.  
 Clarity, cellulose acetate, increasing, 953.  
 Clavel process, 2146.  
 Clay, cellulose acetate saponified by, 501.  
 —, China, *see China clay.*  
 —, molding powder containing, 2645.

- Clay, powder, black, containing, 2470.
- Cleft palate, denture for, cellulose ether, 107.
- Cleft palate obturator, cellulose acetate for mfr. of, 614.
- , cellulose ether for mfr. of, 614.
- Cleve acid, cellulose ester dyed black using, 210.
- , cellulose ether dyed black using, 210.
- Cliches, cellulose acetate for, 2538.
- Cloretone*, see *Trichlor tertiary butyl alcohol*.
- Cloth, aircraft, fireproofing, 441.
- , airplane, cellulose acetate coating for, 445.
- , book, cellulose ether in mfr., 2465.
- , —, celluloseglycollic acid for, 1724.
- , —, cellulose lactic acid for, 1724.
- , —, 1,2-dihydroxypropylcellulose for, 1339.
- , —, propylcellulose for, 1339.
- , butyryl-cellulose for coating, 141.
- , cellulose acetate impregnated, 844.
- , cellulose ether, mfr., 2231.
- , cellulose ether coated, 141.
- , coating, 211.
- , —, cellulose acetate for, 141.
- , cockled effect on, producing, 2332.
- , crinkled effect on, producing, 2332.
- , decorative, mfr., 2525.
- , ethylcellulose for coating, 141, 211.
- , nitrated, filter of, 2458.
- , pearly luster, mfr., 820.
- , puckered effect on, producing, 2332.
- , resin impregnated, 844.
- , rubber for coating, 211.
- , tracing, cellulose acetate coated, 706.
- , —, mfr., 2542.
- , wash, mfr. of, cellulose ether in, 2405.
- , waterproofing, cellulose acetate for, 375.
- , see also *Cellulose, Cotton, Paper, Wood*.
- Cloth Red, 2321.
- Clove bud oil, 2045.
- Clove oil, 1964, 2044, 2045.
- , cellulose acetate solvent, 1818, 1819.
- , glass, laminated, made using, 517.
- Clubman, Crayonne, 2567.
- Coal naphtha*, see *Benzene, from coal tar*.
- Coal tar, ship bottom paint containing, 556.
- Coat, priming, cellulose trilaurate as, 2398.
- , —, starch laurate as, 2398.
- Coating, artificial, cellulose acetate, 746, 747.
- , —, cellulose trilaurate in mfr. of, 1666.
- , —, ethylcellulose linolenate in mfr. of, 1666.
- , —, ethylcellulose stearate in mfr. of, 1666.
- , benzyl-aniline for mfr. of, 282.
- , benzylcellulose, 282, 1581, 1588.
- , biguanide for mfr. of, 282.
- , brilliant, cellulose acetate for, 384.
- , butylcellulose, 282.
- , carbazole for mfr. of, 282.
- , carboxyalkylcellulose esters for, 1398.
- , cellulose acetate lacquer for, 445.
- , chlorhydroxypropylcellulose for, 1398.
- , dibenzyl-aniline for mfr. of, 282.
- , epichlorhydrin for, 1398.
- , ethylaminocellulose acetate for, 1398.
- , *n*-ethylcarbazole for mfr. of, 282.
- , fire-resisting, mfr., 687.
- , guanidine for mfr. of, 282.
- , hydroxyalkylaminocellulose for, 1398.
- , hydroxyalkylcellulose for, 1398.
- , hydroethylaminocellulose for, 1398.
- , hydroxylalkylcellulose for, 1398.
- , mat, cellulose acetate for, 384.
- , *b*-naphthylbiguanide for mfr. of, 282.
- , opaque, cellulose acetate, 570.
- , oxyalkylcellulose for, 1398.
- , propoxyethylaminocellulose for, 1398.

- Coating, rust-proof, cellulose tri-laurate for, 1718.  
 —, thionyl chloride for, 1398.  
 —, transparent, cellulose acetate, 570.  
 —, triphenylguanidine for mfr. of, 282.  
 Cobalt, 1097.  
 —, catalyst, 865.  
 —, catalyst in acetaldehyde mfr., 588.  
 —, catalyst in cellulose acetate mfr., 686.  
 —, cellulose acetate etherified in presence of, 1434.  
 —, cellulose benzoate etherified in presence of, 1434.  
 —, cellulose butyrate etherified in presence of, 1434.  
 —, cellulose formate etherified in presence of, 1434.  
 —, cellulose propionate etherified in presence of, 1434.  
 Cobalt acetate, catalyst, 802.  
 Cobalt amyl phthalate, 1974.  
 Cobalt borate, catalyst, 866.  
 —, catalyst in acetic acid mfr., 834.  
 Cobalt bromide, cellulose acetate made using, 773.  
 —, cellulose pretreated with, 866.  
 Cobalt butyl phthalate, 1974.  
 Cobalt *n*-butyl phthalate, enamel of cellulose derivative and, 230.  
 —, lacquer of cellulose derivative and, 230.  
 —, varnish of cellulose derivative and, 230.  
 Cobalt chloride, catalyst in cellulose acetylating, 1062.  
 —, catalyst in ethyl chloride mfr., 1268.  
 —, cellulose acetate made using, 773.  
 —, cellulose pretreated with, 866.  
 Cobalt ethyl phthalate, 1974.  
 Cobalt *hexahydrobenzoate*, *see* *Cobalt naphthenate*.  
 Cobalt iodide, cellulose acetate made using, 773.  
 —, cellulose pretreated with, 866.  
 Cobalt linoleate, 211.  
 —, coating composition containing, 2546.  
 —, ethylcellulose and as coating, 222.  
 —, ethylcellulose combined with, 2410.  
 Cobalt linoleate, lacquer binder, 458.  
 —, rubber combined with, 2410.  
 Cobalt methyl phthalate, 1974.  
 Cobalt-monoamyl phthalate, lacquer containing, 2396.  
 —, lacquer of cellulose acetate and, 613.  
 Cobalt-monobutyl phthalate, lacquer containing, 2396.  
 —, lacquer of cellulose acetate and, 613.  
 Cobalt-monoethyl phthalate, lacquer containing, 2396.  
 —, lacquer of cellulose acetate and, 613.  
 Cobalt-monopropyl phthalate, lacquer containing, 2396.  
 —, lacquer of cellulose acetate and, 613.  
 Cobalt naphthenate, 1965.  
 —, cellulose acetate plastifier, 481.  
 —, lacquer, colored, containing, 2425.  
 —, —, ship bottom, containing, 2419.  
 —, leather, artificial, made using, 481.  
 Cobalt oxide, 1141.  
 —, catalyst in acetic acid mfr., 957.  
 —, cellulose acetate dyed with, 568.  
 Cobalt phosphate, catalyst, 866.  
 —, catalyst in acetic acid mfr., 834.  
 Cobalt powder, plastic of cellulose acetate and, 808.  
 Cobalt propyl phthalate, 1974.  
 Cobalt resinate, lacquer binder, 458.  
 Cobalt silicate, catalyst, 866.  
 —, catalyst in acetic acid mfr., 834.  
 Cobalt stearate, lacquer, colored, containing, 2425.  
 Cocaine, 2446.  
 Cochineal, 277.  
 —, cellulose acetate dyed using, 512.  
 —, film, colored, made using, 2532.  
 Cocinic anhydride, 1659.  
 Cockled effect, producing, 935.  
 Cocoonut fat, cellulose acetate softened using, 843.  
 —, cloth, tracing, made using, 2542.  
 —, softener, 2216.  
 Cocoonut fiber, cellulose ether plastic containing, 150.  
 Cocoonut oil, 1655, 1669, 1892.  
 —, amines solvent for, 2009.  
 —, cellulose acetate lubricant, 817.

- Cocoonut oil, cellulose acetate plastic with, 564.  
 —, cellulose acetate sized using, 696.  
 —, cellulose ether softener, 2122.  
 —, filler containing, 2489.  
 —, lacquer containing, 2395.  
 —, primer containing, 2480.  
 —, wood filler containing, 863.  
 Cocoonut oil acid, 1715.  
 Cod-liver oil, cellulose acetate precipitant, 627.  
 —, cellulose ether precipitant, 68.  
 Coeramidines, cellulose acetate dyed using, 612.  
 —, cellulose ether dyed using, 2273.  
 Cold frame, mfr., cellulose ether for, 194.  
 Cold frames, glass in, cellulose acetate as substitute for, 625.  
 Collagen, sizing with, 2139.  
 Collar, barium sulfate for, 566.  
 —, castor oil for, 566.  
 —, cellulose acetate in mfr., 423.  
 —, cellulose acetate for stiffening, 792.  
 —, cellulose nitrate in mfr., 423.  
 —, cellulose triacetate for, 566.  
 —, lithopone for, 566.  
 —, semi-stiff, lacquer for application to, 2397.  
 —, stiffening, cellulose acetate for, 792.  
 —, triphenyl phosphate for, 566.  
 —, waterproofing, 566.  
 —, —, cellulose acetate for, 393, 423.  
 —, —, sodium casein for, 393.  
 —, zinc oxide for, 566.  
 Collidine, 2033.  
 Collodion, 839.  
 —, acetate, 419.  
 —, cellulose ether, 2445.  
 —, horse hair, artificial, mfr., 353.  
 —, plastic, unflammable, containing, 400.  
 —, solid, *see Celluloid*.  
 —, substitute, 323.  
 —, *see also Cellulose nitrate; Gun-cotton*.  
 Collodion cotton, *see Cellulose nitrate*.  
 Collodion sacs, cellulose acetate as substitute for, 439.  
 —, *see also Cellulose nitrate, sacs*.  
 Colloresin D, 245, 2136, 2415.  
 —, *see also Methylcellulose*.  
*Colloxylin, see Cellulose nitrate*.  
 Colophene, 1806.  
 Colophony, 1591, 1967.  
 —, acetone as solvent of, 1885.  
 —, benzylcellulose and, 175.  
 —, cellulose ether thickener in dyeing, 135.  
 —, cyclohexanyl acetate solvent of, 1990.  
 —, dichlorethylene stabilized by, 1066.  
 —, esterified, 1581.  
 —, —, lacquer containing, 2424.  
 —, ethylcellulose and, 175.  
 —, lacquer containing, 2428.  
 —, methylcellulose and, 175.  
 —, molding cellulose acetate with, 677.  
 —, printing, intaglio, made using, 2551.  
 —, sizing with, 2141.  
 —, trichlorethylene stabilized by, 1066.  
 Colophony glyceride, 2054.  
 —, lacquer containing, 1590, 2427.  
 —, ethylcellulose lacquer with, 234.  
 Colophony glyceryl ester, cellulose ester plasticizer, 241.  
 —, cellulose ether plasticizer, 241.  
 Colophony resin, benzylcellulose lacquer with, 234.  
 Colored effects, producing, 2316.  
*Color photography, see Photography, color*.  
 Colors, volatile, dyeing with, 2238.  
*Columbus spirit, see Methyl alcohol*.  
 Colza oil, cellulose acetate plasticizer, 462.  
 —, sizing with, 2140.  
 —, *see also Rape oil*.  
 Comb, 1670.  
 —, mfr., cellulose acetate for, 391.  
 Comnoform, 1275.  
 Complexion, tanned, anthracene-sulfonic acid in treatment of, 2450.  
 —, —, naphthol-sulfonic acid in treatment of, 2450.  
 —, —, naphthylamine-sulfonic acid in treatment of, 2450.  
 Composite fabrics, dyeing, 2308.  
*Composite wind shield glass, see Glass, laminated*.  
 Composition, coating, cellulose ether, 2388.  
 —, filler, cellulose ether for, 2147.

- Composition, light-transforming,  
  alcohol, 461.  
—, —, cellulose acetate, 461.  
—, —, glycerol, 461.  
—, —, rhodamine, 461.  
—, plastic, cellulose ether for, 2417.  
—, priming, benzylcellulose for  
  coating, 2471.  
—, —, cellulose ether for, 2417.  
—, printing ethylcellulose for, 2549.  
*Compressed air, see Air, com-  
pressed.*  
*Compressed guncotton, see Cellu-  
lose nitrate, compressed.*  
Conchiolin, pearl containing, 2610.  
—, mother-of-pearl containing,  
  2610.  
Concrete, coating, cellulose acetate  
  lacquer for, 1080.  
—, foam for, ammonium caseinate  
  as, 1002.  
—, —, cellulose acetate as, 1002.  
*Condensates, see Condensation  
products.*  
Condenser, electric, cellulose ether  
  sheets for, 126.  
—, —, coating, 296.  
—, —, mfr., 803.  
—, —, —, cellulose acetate in, 415,  
  461, 688, 1014.  
—, —, —, cellulose ether in, 2440,  
  2527.  
Conditioning, 2143.  
Conductor, electric, cellulose ether  
  for, 2442.  
—, —, coating, 874.  
—, —, copper for, 2442.  
—, —, graphite for, 2442.  
—, —, insulating, cellulose acetate  
  for, 825.  
—, —, insulator for, benzylcellulose  
  for, 2442.  
—, —, —, ethylcellulose for, 2442.  
—, —, —, mfr., 919.  
—, —, —, cellulose acetate in, 600,  
  939, 2439, 2440.  
—, —, —, cellulose ether for, 2441.  
—, —, —, nitric acid in, 2439.  
—, —, —, silver nitrate in, 2439.  
—, loaded, mfr., cellulose ether for,  
  113, 2440.  
—, mfr. of, cellulose acetate in, 841,  
  939.  
—, metallic, mfr. of, cellulose ace-  
  tate in, 341.  
—, —, —, cellulose nitrate in, 341.  
Conductor, wire, fireproofing, cel-  
  lulose acetate for, 732.  
—, —, —, selenium for, 732.  
—, —, insulating, cellulose acetate  
  for, 825.  
Confectionery, benzylcellulose for  
  coating, 159, 1568.  
—, ethylcellulose for coating, 159.  
—, wrapping cellulose acetate film  
  for, 1090.  
Congo, amyl furoate solvent for,  
  1997.  
—, butyl furoate solvent for, 1997.  
—, delustring with, 2187.  
—, ethyl furoate solvent for, 1997.  
—, fufural solvent for, 1997.  
—, fufuryl alcohol solvent for,  
  1997.  
—, methyl furoate solvent for,  
  1997.  
—, propyl furoate solvent for, 1997.  
—, tetrahydrofurfuryl alcohol sol-  
  vent for, 1997.  
Congo amber, constants of, 2055.  
Congo copal benzyl ester, 2053.  
Congo ester, constants of, 2056.  
Congo Red, cellulose ether dyed us-  
  ing, 2226.  
Coniferaldehyde, 1174.  
Coniferin, 1132.  
Coniferyl alcohol, 1115.  
*Contact masses, see Catalyst.*  
*Contact process, see Sulfuric acid,  
contact.*  
Container, cellulose acetate for mfr.  
  of, 545.  
—, coating, cellulose acetate for,  
  847.  
—, gas, cellulose acetate for, 592.  
*Continuous picture films, see Films,  
picture, continuous.*  
*Copaivic ether, see Ethyl copaivate.*  
Copal, 1911, 1969, 2053.  
—, amines solvent for, 2009.  
—, benzylcellulose and, 175.  
—, benzylcellulose plasticizer, 188.  
—, cellulose acetate plastic with,  
  442.  
—, cellulose ester and as varnish,  
  246.  
—, cellulose ether and as varnish,  
  246.  
—, cellulose ether varnish with,  
  135.  
—, cellulose nitrate plastic with,  
  442.  
—, Congo, lacquer, containing, 723.

- Copal, cyclohexanyl acetate solvent of, 1990.
- , decorative leaf made using, 457.
- , delustring with, 2187.
- , dichlorethylene solvent for, 1821.
- , ethylcellulose and, 175.
- , ethylcellulose plasticizer, 188.
- , Manila, cellulose acetate plastic with, 573.
- , methylcellulose and, 175.
- , phosphorescence produced by, 1372.
- , solvents for, 1849.
- , toluene solvent for, 1805.
- , trichlorethylene solvent for, 1825.
- Copal ester, benzyl alcohol solvent for, 1862.
- Copper, acetaldehyde oxidized by, 454.
- , acetic acid made using, 454, 633.
- , acetic anhydride mfr., using, 626.
- , alkallicellulose made with, 58.
- , catalyst, 492.
- , catalyst in acetaldehyde mfr., 586, 588, 927, 1023.
- , cellulose acetate etherified in presence of, 1434.
- , cellulose acetate gelatin substitute, 39.
- , cellulose acetate lacquer containing, 616.
- , cellulose acetate paint containing, 616.
- , cellulose benzoate etherified in presence of, 1434.
- , cellulose butyrate etherified in presence of, 1434.
- , cellulose ether dyed using, 2271.
- , cellulose ether impregnated with, 2480.
- , cellulose formate etherified in presence of, 1434.
- , cellulose propionate etherified in presence of, 1434.
- , cellulose propionate gelatin substitute, 39.
- , conductor, electric, containing, 2442.
- , powdered, cellulose ether lacquer containing, 2404.
- , salts of, alkallicellulose made with, 58.
- , —, cellulose treated with, 1137.
- Copper acetal, catalyst in aliphatic acid mfr., 1031.
- Copper acetate, acetic acid mfr. using, 633.
- , acetic anhydride from, 1048.
- , catalyst in acetic anhydride mfr., 843.
- , cellulose ether dyed using, 2271.
- Copper alloy, cellulose acetate lacquer containing, 616.
- , cellulose acetate paint containing, 616.
- Copperammonia, strengthening, 2130, 2134.
- Copper-ammonia cellulose, printing with, 2345.
- , sheets, waterproofing, 654.
- Copper-amonio rayon, Picrocarmin K for identifying, 731.
- Copper-ammonio solution, cellulose ether softener, 2350.
- Copper amonium, see Cuprammonium.*
- Copper amyl phthalate, 1974.
- Copperas, see Iron (ous) sulfate.*
- Copper benzyl phthalate, 1974, 1975.
- Copper borate, catalyst in acetaldehyde mfr., 671.
- , catalyst in acetic acid mfr., 834.
- Copper bromide, catalyst in cellulose acetate mfr., 1031.
- , copper formate solvent, 463.
- Copper butylglyceryl phthalate, cellulose acetate plastifier, 1016.
- , mfr., 1016.
- Copper butyl phthalate, 1974.
- , lacquer containing, 2393.
- Copper-*n*-butyl phthalate, enamel of cellulose derivative and, 230.
- , lacquer of cellulose derivative and, 230.
- , varnish of cellulose derivative and, 230.
- Copper (ic) butyl resin, properties, 613.
- Copper carbonate, acetic anhydride made using, 737.
- Copper cellulosexanthacetate, 1762.
- Copper 4-chlor-2-aminophenol-5-sulfate, cellulose ether dyed with, 156.
- Copper chloride, 2252.
- , acetic anhydride made using, 737.
- , catalyst, 539.

- Copper chloride, catalyst in cellulose acetate mfr., 958, 1031.  
—, catalyst in cellulose acetylating, 1062.  
—, cellulose formate solvent, 463.  
Copper (ic) chloride, catalyst in cellulose acetate mfr., 412.  
—, cellulose ether dyed using, 2299, 2305.  
—, cellulose formate solvent, 388, 1799.  
—, chlorhydrin made using, 474.  
Copper (ous) chloride, acetic anhydride mfr. using, 1048.  
—, benzyl chloride made using, 1293.  
—, catalyst in cellulose acetate mfr., 667, 780.  
—, formic acid made using, 594.  
Copper chromate, acetic acid made using, 633.  
—, catalyst in acetic acid mfr., 976.  
—, formaldehyde made using, 633.  
—, keten made using, 633, 779.  
—, methyl alcohol made using, 633.  
Copper (ous) cyanide, cellulose ether dyed using, 2270.  
Copper cyclohexyl phthalate, 1975.  
Copper emulsion, mfr. of, cellulose ether for, 86.  
Copper ethyl phthalate, 1974, 1975.  
Copper hydroxide, acetic anhydride made using, 737.  
Copper iodide, catalyst in cellulose acetate mfr., 1031.  
*Copperized ammonia, see Cuprammonium.*  
Copper (ic) laurate, lacquer, ship bottom, containing, 2419.  
Copper methylate, catalyst in aliphatic acid mfr., 1031.  
Copper methyl phthalate, 1974, 1975.  
Copper-monoamyl phthalate, lacquer containing, 2396.  
—, lacquer of cellulose acetate and, 613.  
Copper-monobutyl phthalate, lacquer containing, 2396.  
—, lacquer of cellulose acetate and, 613.  
Copper-monoethyl phthalate, lacquer containing, 2396.  
—, lacquer of cellulose acetate and, 613.  
Copper-monopropyl phthalate, lacquer containing, 2396.  
Copper-monopropyl phthalate, lacquer of cellulose acetate and, 613.  
Copper naphthenate, benzylcellulose and as lacquer, 235.  
—, lacquer containing, 1573.  
—, lacquer, ship bottom, containing, 2419.  
—, lacquer containing, 2419.  
Copper nitrate, catalyst in acetaldehyde mfr., 1023.  
Copper (ic) nitrate, catalyst, 492.  
Copper oleate, benzylcellulose and as lacquer, 235.  
—, cellulose ether viscosity reduced by, 1365, 2093.  
—, lacquer containing, 1573, 2419, 2423.  
Copper oxide, acetic acid made using, 633.  
—, acetone made using, 772.  
—, catalyst in acetaldehyde mfr., 580.  
—, catalyst in aliphatic acid mfr., 1031.  
—, cellulose acetate etherified in presence of, 1434.  
—, cellulose benzoate etherified in presence of, 1434.  
—, cellulose butyrate etherified in presence of, 1434.  
—, cellulose formate etherified in presence of, 1434.  
—, cellulose mercerized by, 9.  
—, cellulose propionate etherified in presence of, 1434.  
—, formaldehyde made using, 633.  
—, keten made using, 633, 779.  
—, methyl alcohol made using, 633.  
—, zinc acetate made using, 772.  
Copper (ous) oxide, acetic acid made using, 652.  
Copper perchlorate, bleaching cellulose by, 1411.  
—, catalyst in cellulose acetate mfr., 688.  
—, cellulose purified by, 1411.  
Copper phenyl phthalate, 1975.  
Copper phosphate, catalyst in acetaldehyde mfr., 671.  
—, catalyst in acetic acid mfr., 834.  
Copper phthalate, 1906.  
Copper propyl phthalate, 1974.  
*Copper pyrites, see Copper sulfide; Pyrites, copper.*  
Copper ricinate, 1939.  
Copper salt, cellulose acetate dyed using, 749.

- Copper selenide, mfr., 2447.  
Copper silicate, catalyst in acetic acid mfr., 834.  
Copper sulfate, 2252.  
—, catalyst in acetation, 433.  
—, catalyst in cellulose acetate mfr., 414.  
—, cellulose ester dyed black using, 267.  
—, cellulose ether dyed black using, 267.  
—, cellulose ether dyed using, 2304.  
—, cotton dyed black using, 267.  
Copper (ic) sulfate, catalyst in cellulose acetating, 354.  
Copper sulfide, 2252.  
Copper sulforicinate, 1939.  
Copper telluride, mfr., 2447.  
Copper vanadate, catalyst in acetic acid mfr., 976.  
Cupra, 1704.  
*Coralline*, see *Aurine*.  
Core, magnet, cellulose acetate for, 645.  
—, —, iron-nickel alloy for, 645.  
Corinth, cellulose ester dyed, 157.  
—, cellulose ether dyed, 157, 2264.  
Cork, 1711.  
—, building material made using, 485.  
—, cellulose ether plastic containing, 150.  
—, dibutyl carbonate and as plastic, 153.  
—, esterifying, 668.  
—, ethylacetanilid and as plastic, 153.  
—, ethyl acetate and as plastic, 153.  
—, flooring made using, 1902.  
—, jute separated from, 529.  
—, leather separated from, 529.  
—, plastic made using, 2574.  
—, rubber and as plastic, 153.  
—, substitute for cellulose acetate as, 329.  
—, tetrahydronaphthol acetate and as plastic, 153.  
—, wood separated from, 529.  
Cork acetate, mfr., 668.  
Cork dust, airplane dope containing, 484.  
—, cellulose acetate and as lacquer, 484.  
Cork laurate, mfr., 668.  
Cork meal, caoutchouc substitute containing, 432.  
Cork triacetate, mfr., 550.  
Corncob, acetic acid from, 919.  
—, cellulose from, esterifying, 630.  
—, lactic acid from, 919.  
Corn collodions, 2446.  
Corn cure, 2446.  
Corn oil, 1669.  
—, nitrated, 2056.  
—, oxidized, cellulose acetate softener, 459.  
Cornstalks, 1175.  
—, *a*-cellulose from, 1152.  
Corn starch, cellulose acetate dyed in presence of, 651.  
—, see also *Starch*, *corn*.  
Corn sugar, sizing with, 2140.  
—, see also *Dextrose*.  
*Corrosive sublimate*, see *Mercury (ic) chloride*.  
Corsets, fabric, elastic for, 2382.  
Corundum, cellulose acetate delustred using, 854.  
Coryfin, 1938.  
Cosmetic, cellulose, alkylated, as base for mfr. of, 87.  
—, cellulose acetate in, 403.  
—, dextrin, alkylated, as base for mfr. of, 87.  
—, inulin, alkylated, as base for mfr. of, 87.  
—, inulin ether in, 1161.  
—, lichenin, alkylated, as base for mfr. of, 87.  
—, starch, alkylated, as base for mfr. of, 87.  
Cosmetic product, cellulose acetate in mfr. of, 479.  
Cottolene, stencil sheet made using, 2489.  
Cotton, acetylating, 313, 476, 821, 848, 856, 1060.  
—, acetylating superficially, 373.  
—, *alkylated*, see *Cellulose, alkylated*.  
—, alkylating, 2641.  
—, allylating, 298.  
—, amidated, 920, 1751, 1758.  
—, amido, dyeing, 1019.  
—, ash in, 2647.  
—, benzene extract of, 1148.  
—, *benzoylated*, see *Cellulose benzoate*.  
—, benzoylation of, 4, 5.  
—, bleaching, 652, 1150.  
—, boiling, 1150.  
—, carbonizing, 743, 951, 1133.  
—, *a*-cellulose in, determination of, 2648.



- Cotton, cellulose acetate impregnated, 706.
- , cellulose acetate with, printing on, 1000.
  - , chlorinating, 698.
  - , coated, benzylcellulose for, 1590.
  - , composition, 1173.
  - , cross-dyeing, 691, 2313.
  - , cutting, 1150.
  - , damask effect on, 885.
  - , defibering, 1150.
  - , deflocculation, 710.
  - , dichlorhydrin treated with, 404.
  - , diffraction patterns of, 1121.
  - , distillation of, 1132.
  - , drying, 1150.
  - , dusting, 1150.
  - , dyeing, 267, 934, 1009.
  - , dyeing black, 179.
  - , dyeing properties, modifying, 831.
  - , epichlorhydrin treated with, 404.
  - , etherification of, 12, 1415.
  - , ethylcellulose impregnated, 235, 236.
  - , fabric of cellulose acetate and, dyeing, 1009.
  - , fabric of cellulose ether and, 2379.
  - , fat in, determination of, 2648.
  - , formic acid treated with, 404.
  - , formylating, 476.
  - , fraying, preventing, 2359.
  - , gaseous products of, 1133.
  - , gut, substitute, made of cellulose acetate impregnated, 638.
  - , glycerol treated with, 404.
  - , handkerchief made with cellulose acetate and, 695.
  - , heat on, 1132.
  - , hydrating, 1515.
  - , *hygroscopicity*, see *Cotton, moisture in*.
  - , immune, bleaching, 2314.
  - , —, de-sizing, 2314.
  - , —, mercerizing, 2314.
  - , —, scouring, 2314.
  - , —, singeing, 2314.
  - , immunized, 642, 831, 907, 985, 1087, 1758.
  - , —, cellulose acetate with, 1009.
  - , —, dyeing, 642, 1019.
  - , —, mfr., 919.
  - , instrument strings made of cellulose acetate impregnated, 638.
  - , isohygrometric curves, 1108.
  - Cotton, mercerized, isohygrometric curves, 1108.
  - , methylation of, 77, 79, 1307.
  - , methylcellulose from, 77.
  - , naphthyl isocyanate for modifying dyeing properties of, 831.
  - , *nitration of*, see *Cellulose, nitrating*.
  - , nitrophenyl isocyanate for modifying dyeing properties of, 831.
  - , packing made using, 487.
  - , palmitic acid treated with, 404.
  - , passive, 899.
  - , —, dyeing, 1019.
  - , phenyl isocyanate for modifying dyeing properties of, 831.
  - , Picrocarmin K for identifying, 731.
  - , pretreating, 821.
  - , printing on, 2344.
  - , pulp compared with, 989.
  - , purification, 1150.
  - , pyridine for modifying dyeing properties of, 831.
  - , racket strings made of cellulose acetate impregnated, 638.
  - , ravelling, preventing, 2359.
  - , resin in, determination of, 2648.
  - , scouring, 652.
  - , sizing methylcellulose for, 258.
  - , sodium hydroxide absorption by, 1196.
  - , sorting, 1150.
  - , specific volume, 1151.
  - , sponge, artificial, made using, 2536.
  - , stearating, 997.
  - , swelling, 710.
  - , tablecloth made with cellulose acetate and, 695.
  - , towel made with cellulose acetate and, 695.
  - , ultra-violet radiation through, 657.
  - , water absorption, 1108.
  - , *water in*, see *Cotton, moisture in*.
  - , wax in, determination of, 2648.
  - , waxes in, 1151.
  - , weaving properties, 701.
  - , wetting agents for, 2210.
  - , zinc chloride for modifying dyeing properties of, 831.
  - , X-ray analysis of, 1179.
  - , see also *Cellulose, Lignin, Paper, Wood*.

- Cotton flock, delustring with, 2174.
- , record, phonograph, made using, 822, 2604.
- Cotton linters, 1146.
- Cotton seed hulls, acetating, 359.
- Cotton seed oil, carbon dioxide treatment of, 984.
- , cellulose acetate lubricated by, 722.
- , cellulose ether dressing, 2219.
- , hydrogen sulfide treatment of, 984.
- , hydrogen treatment of, 984.
- , nitrated, 2056.
- , oxidized, cellulose acetate softener, 459.
- , sulfur dioxide treatment of, 984.
- , tinting, cellulose ether using, 2231.
- Cotton wool, see Cotton.*
- Cotton yarn, shrinkage, reducing, 2373.
- Coumaric anhydride, 2003.
- Coumarin, 2003, 2048.
- , light filter containing, 63.
- , ultra-violet rays absorbed by, 63.
- Coumarone, 1730, 1806, 1921, 2053, 2054.
- , acetone as solvent of, 1885.
- , amyl furoate solvent for, 1997.
- , benzyl acetate solvent for, 1928.
- , butyl acetate solvent of, 1919.
- , butyl furoate solvent for, 1997.
- , cellulose lacquer containing, 556.
- , dichlorethane solvent for, 1816.
- , dioxane solvent for, 1876.
- , epichlorhydrin solvent for, 1842.
- , ethyl furoate solvent for, 1997.
- , furfural solvent for, 1997.
- , furfuryl alcohol solvent for, 1997, 1999.
- , methyl furoate solvent for, 1997.
- , plastic containing, 2570, 2577.
- , polymerized, benzylcellulose plasticizer, 1575.
- , —, benzyl starch plasticizer, 1575.
- , —, cellulose acetate with, 589.
- , *n*-propyl acetate solvent of, 1917.
- , propyl furoate solvent for, 1997.
- , solvents for, 1849.
- , tetrahydrofurfuryl alcohol solvent for, 1997.
- , toluene solvent for, 1805.
- Coumarone, trichlorethylene solvent for, 1825.
- p*-Coumarone, butylcellulose with, 1340.
- Coumarone resin, 1884, 1911.
- , benzyl alcohol solvent for, 1862.
- , benzyl plasticizer, 174.
- , celluloid substitute made containing, 468.
- , cellulose acetate plastic, 422.
- , dichlorethylene stabilized by, 1066.
- , lacquer containing, 2393.
- , trichlorethylene stabilized by, 1066.
- Counters, cellulose acetate in mfr. of, 707.
- Courtauld's Desizing Compound, formula, 922.
- C. O. V., see Sulfuric acid.*
- Covering, ethylcellulose for, 2553.
- , floor, benzylcellulose in mfr. of, 1579, 1580.
- , —, cellulose acetate for, 726.
- , —, linoxyn in mfr. of, 1579.
- , —, tolyl phosphate in mfr. of, 1579.
- , —, tricresyl phosphate in mfr. of, 1579.
- , wall, benzylcellulose for, 1579, 1585.
- , —, ethylcellulose for, 2553.
- , —, linoxyn in mfr. of, 1579.
- , —, tricresyl phosphate in mfr. of, 1579.
- , —, tolyl phosphate in mfr. of, 1579.
- Crayon, mfr., 2540.
- , —, benzylcellulose for, 2539.
- , —, carnauba wax in, 2423.
- , —, cellulose laurate for, 237.
- , —, ethylcellulose in, 2423, 2539.
- , —, ethylcellulose laurate for, 237.
- , —, fats for, 2539.
- , —, *b*-naphthol-methyl ether for, 2539.
- , —, oils for, 2539.
- , —, phenol-resin for, 2539.
- , —, stearic acid in, 2423.
- , —, waxes for, 2539.
- , marking, mfr., 2540.
- Creases, cellulose acetate, removing, 913.
- Creasing, preventing, 2357, 2358.
- Creatinine, cellulose acetate dyed using, 530.

*Creosotal, see Creosote.*

Creosote, 1858, 1873, 1998, 2020.

—, acetic acid recovery using, 724.

—, amyl lactate and, cellulose ether solvent, 93.

—, amyl oxalate and, cellulose ether solvent, 93.

—, butyl lactate and, cellulose ether solvent, 93.

—, butyl oxalate and, cellulose ether solvent, 93.

—, cellulose acetate and as plastic, 407.

—, cellulose acetate solvent, 484, 1805.

—, cellulose ether collodion containing, 2445.

—, cellulose ether solvent, 93.

—, ethyl lactate and, cellulose ether solvent, 93.

—, ethyl oxalate and, cellulose ether solvent, 93.

—, fireproofing with, 491.

—, methyl lactate and, cellulose ether solvent, 93.

—, methyl oxalate and, cellulose ether solvent, 93.

—, propyl lactate and, cellulose ether solvent, 93.

—, propyl oxalate and, cellulose ether solvent, 93.

—, wood, 1861.

Creosote oil, cellulose acetate solvent, 446.

—, plastic made using, 2560.

—, rubber-like masses from, 514.

Crepe, cellulose acetate, 907.

—, mfr. of, 867, 946, 947, 952, 1013.

—, cellulose acetate effects, 852, 934.

—, cellulose ester, producing, 302.

—, cellulose ether, producing, 302.

—, hollow filament, in mfr. of, 1006.

—, silk, 2332.

Crepe cloth, mfr., 2332, 2338.

Crepe de chine, cellulose acetate mfr., 872.

—, mfr. with cellulose acetate, 701.

Crepe effect, 701.

—, obtaining, 61.

—, producing, 270, 935, 1094, 2335, 2338, 2638, 2640.

—, *see also Effects, crepe.*

Crepe fabric, benzylcellulose in mfr., 1583.

Crepe Marocain, cellulose acetate fabric, 630.

Creping, 1583.

Cresidine, 129.

—, cellulose acetate dyed using, 610, 751.

—, cellulose ether dyed using, 117, 2273, 2274.

*p*-Cresidine, cellulose acetate dyed using, 809.

Cresin, cellulose acetate solvent, 1800.

—, ethylcellulose solvent, 1800.

Cresol, 66, 1569, 1859, 1960, 2027.

—, acetic acid extracted with, 798.

—, acetone recovered by, 2126.

—, acetyl bromide with as plastic, 561.

—, benzyl bromide with as plastic, 561.

—, bromide derivative of, fire-retardant, 1374.

—, bromo, cellulose ether inflammability reduced by, 182.

—, bromoform with as plastic, 561.

—, carbon tetrachloride with as plastic, 561.

—, cellulose acetate filament mfr. using, 342.

—, cellulose acetate gelatinized by, 562.

—, cellulose ether, film strengthened by, 1379.

—, cellulose ether dyed using, 2266.

—, cellulose gelatinized by, 562.

—, cellulose purified by, 1409.

—, chloral with as plastic, 561.

—, ethylcellulose for emulsification of, 2448.

—, ethylcellulose strengthened by, 1379.

—, ethyl chloride with as plastic, 561.

—, ethyl iodide with as plastic, 561.

—, film made using, 2510.

—, methylcellulose for emulsification of, 2448.

—, resin, artificial, made using, 1079.

—, wetting out agent, 1236.

*m*-Cresol, acetone recovered by absorption in, 947.

—, cellulose acetate solvent, 1055.

—, cellulose ether dyed using, 114.

—, cellulose pretreated with, 627.

—, flash point, 2060.

- o-Cresol, cellulose ester dyed using, 281.
- , cellulose ether dyed using, 281.
- , cellulose ether dyed using, 281, 2266.
- , cellulose ether solvent, 1841.
- , ethyl cellulose solvent, 19.
- , starch ether solvent, 1483.
- p-Cresol, cellulose acetate dyed using, 792.
- , cellulose ester dyed with, 157.
- , cellulose ether dyed using, 120, 157, 299, 2255, 2260, 2277.
- Cresolcresyl ether, acetic acid solvent, 956.
- Cresol ester, 1681.
- , cellulose acetate plastifier, 370.
- Cresol ethers, cellulose acetate plastifier, 452.
- Cresolethyloxyphenyl sulfonate, 2034.
- Cresol-formaldehyde, 1882.
- Cresol formaldehyde condensate, ethylcellulose combined with, 152.
- Cresol methyl ethers, cellulose acetate plasticizer, 398.
- Cresolmethyloxyphenyl sulfonate, 2034.
- Cresolnaphthyl sulfonate, 2034.
- Cresolnitronaphthyl sulfonate, 2034.
- Cresolnitrotolyl sulfonate, 2034.
- Cresolphenyl sulfonate, 2034.
- Cresol phosphate, benzylcellulose plasticizer, 167.
- , cellulose acetate plastifier, 391.
- , ethylcellulose plasticizer, 167.
- o-Cresolphthalein, 1066.
- Cresolpropyloxyphenyl sulfonate, 2034.
- Cresol red, 1066.
- Cresols, 1231, 1859, 2172.
- , acetic acid recovered using, 581.
- , cellulose ether collodion containing, 2445.
- , cellulose ether dyeing using, 2237.
- , cellulose ether solvent, 106.
- , cellulose pretreated with, 627.
- , delustring prevented by, 197.
- , delustring with, 2185, 2187.
- , luster preserving by, 2171.
- , solubilizing agent, 2219.
- Cresol sulfoacetate, cellulose acetate plastifier, 391.
- Cresolsulfonic acids, cellulose acetate dyed using, 2235.
- Cresolsulfonic acids, cellulose acetate printing, use in, 672.
- , cellulose acetate treated with, 495.
- , tannin made with, 1427.
- Cresol tetrahydronaphthalenesulfonate, 66.
- Cresol thiophosphate, cellulose acetate plastifier, 391.
- Cresoltolyl ether, acetic anhydride solvent, 1048.
- Cresoltolyl sulfonate, 2034.
- Cresolxylyl sulfonate, 2034.
- p-Cresotic acid, arylamide of, 1086.
- o-Cresotinic acid, cellulose ether dyed using, 2273.
- o-Cresotinic sulfochloride, cellulose acetate dyed using, 503.
- Cresoxylacetic acid-o-toluidide, cellulose acetate solvent, 507.
- Cresyl acetate, 1926.
- , cellulose acetate made using, 771.
- , cellulose acetate plasticizer, 398.
- , cellulose acetate solvent, 464.
- p-Cresyl acetate, acetic anhydride solvent, 768.
- Cresyl benzoate, camphor substitute, 2051.
- Cresyl chlorbenzoate, camphor substitute, 2051.
- Cresyl chlortoluate, camphor substitute, 2051.
- Cresyl dianilid, 1896.
- Cresyldiethylphosphate, benzylcellulose plastifier, 1575.
- Cresyldimethyl phosphate, benzylcellulose plastifier, 1575.
- Cresyldiphenyl phosphate, 1898.
- , camphor substitute, 2051.
- Cresyl formate, lacquer containing, 2391.
- Cresylglycol ether, 1870.
- Cresyl hydroxybenzoate, camphor substitute, 2051.
- Cresylic acid, 1894.
- , cellulose acetate plastifier, 586.
- , lacquer made using, 489.
- , see also *Cresol*.
- m-Cresylic ether of salicylic acid, see m-Cresalol.
- Cresylmethyl ether, plastic made using, 2577.
- Cresyl phosphate, 1971.
- , cellulose acetate plastifier, 391.
- , cellulose acetate softener, 661.
- , dental plate made using, 2539.

- Cresyl phosphoric acid dianilid, 1896.  
Cresyl phosphoric ester, 1896.  
Cresyl phthalate, 1977.  
—, camphor substitute, 119.  
Cresyl 1-tetrahydronaphthalene-sulfonate, 1828.  
Cresyl 2-tetrahydronaphthalene-sulfonate, 1828.  
Cresyl toluate, camphor substitute, 2051.  
Cresyl-*p*-toluenesulfonate, flash point, 2060.  
*o*-Cresyl-*p*-toluenesulfonate, 1971, 2034.  
Cresylxylylphosphate, mfr., 566.  
Crimson, bluish, cellulose ether dyed, 2293.  
—, cellulose acetate dyed using, 540, 845.  
Cristalux, 2567.  
Cristore, 2567.  
Crocein, cellulose ether dyed using, 2294.  
Crocein acid, cellulose acetate dyed using, 673.  
—, cellulose ether dyed using, 2294.  
Crotonaldehyde, cadmium phosphate as catalyst in mfr., 976.  
—, cellulose acetate dyed using, 718.  
—, mfr., 447, 714, 716.  
—, oxidation, 976.  
*Croton chloral*, see *Butyl chloral*.  
Crotonic acid, 906, 1728, 1729.  
—, cellulose acetate hydrolyzed in presence of, 1056.  
—, cellulose esterified by, 807.  
Crotonic anhydride, 906, 1727, 1728.  
—, cellulose acetate hydrolyzed in presence of, 1056.  
Crotonic esters, 1953.  
Croton oil, 2446.  
*Crotonilic acid*, see *Tiglic acid*.  
Crotonylcellulose, 2643.  
—, see also *Cellulose crotonate*.  
Crotonyl chloride, cellulose esterified using, 278.  
Crotylcellulose, 2643.  
—, see also *Ethylbenzylcrotylcellulose*.  
Crotyl propionate, 1934.  
Crumbs, 1206, 1239.  
Crystal effects, producing, 2428.  
*Crystallizable acetic acid*, see *Acetic acid*.  
Crystal violet, 4.  
Crystal violet, amines solvent for, 2009.  
Crystal violet 6B, 2640.  
Crystal violet P, 531.  
*Cubic saltpeter*, see *Sodium nitrate*.  
Cuff, barium sulfate for, 566.  
—, castor oil for, 566.  
—, cellulose acetate for stiffening, 792.  
—, cellulose triacetate for, 566.  
—, lithopone, for, 566.  
—, mfr., cellulose acetate in, 423.  
—, —, cellulose nitrate in, 423.  
—, semi-stiff, lacquer for application to, 2397.  
—, stiffening, cellulose acetate for, 792.  
—, triphenyl phosphate for, 566.  
—, waterproofing, 566.  
—, —, cellulose acetate for, 393, 423.  
—, —, sodium casein for, 393.  
—, zinc oxide for, 566.  
Cumar, 1568, 1969.  
—, benzylcellulose solvent, 293.  
—, ethylcellulose solvent, 293.  
—, transfer made using, 2548.  
—, transfer, gold, made using, 2550.  
*Cumarin*, see *Coumarin*.  
Cumene, 1806.  
—, benzylcellulose solvent, 230.  
—, bromo, cellulose ether inflammability reduced by, 182.  
—, cellulose acetate precipitated by, 1043.  
—, cellulose acetate solvent, 1785.  
—, cellulose ether solvent, 230, 2227.  
—, ethylcellulose solvent, 230.  
—, flash point, 2060.  
—, solubilizing agent, 2213, 2219.  
*x*-Cumene, celluloid solvent, 890.  
—, cellulose acetate solvent, 890.  
Cumin oil, 2044.  
*Cumol*, see *Cumene*.  
*Cumyl compounds*, see *Pseudocumyl*.  
Cuprammonium cellulose, dry cleaning, 737.  
—, horse hair, artificial, mfr., 353.  
—, laundering, 737.  
—, see also *Cellulose cuprammonium*.  
Cuprammonium filaments, delustering, 849.

- Cuprammonium solution, cellulose ether coated with, 2337.  
—, flax purified by, 1179.  
—, methylcellulose solvent, 26.  
*Cupric*, see *Copper (ic)*.  
*Cuprous*, see *Copper (ous)*.  
Curacit, 701.  
Currency, paper, cellulose acetate coating, 710.  
Curtain, automobile, cellulose acetate in mfr., 820.  
—, window, cellulose acetate in mfr., 820.  
Curvitas, 2567.  
*Cuticular tissues*, see *Cutin*.  
*Cyamellone*, see *Mellonic acid*.  
Cyanacetic acid, 993.  
—, cellulose ether dyeing assistant, 2222.  
Cyanacetyl chloride, 1750.  
—, cellulose etherified with, 273.  
Cyanamide, 1645, 1748.  
—, cellulose dioxanthate combined with, 148.  
—, cellulose xanthate combined with, 148.  
—, starch xanthate combined with, 148.  
Cyanate, cellulose ether softener, 2155.  
*Cyanbenzene*, see *Benzonitrile*.  
*Cyanhydric acid*, see *Hydrocyanic acid*.  
Cyanide, aldol made using, 541.  
Cyanins, halation avoided by, 2509.  
Cyanoacetyl chloride, 1726.  
*o*-Cyanocinnamic acid, 1979.  
Cyanogen, acetalation of, 309.  
Cyanogen bromide, 1742.  
—, cellulose compounds from, 279.  
Cyanogen cellulose, mfr., 1742.  
Cyanogen chloride, 1742, 1743.  
—, cellulose compounds from, 279.  
Cyanogen halide, cellulose compounds from, 279.  
*Cyanogen iodide*, see *Iodine cyanide*.  
Cyanohydric acid halide, cellulose derivative made using, 250.  
—, cellulose ether made using, 250.  
Cyanuric bromide, 1743.  
—, cellulose derivative made using, 250.  
—, cellulose ether from alkalicellulose and, 298.  
—, cellulose ether made using, 250.  
Cyanuric chloride, 1743.  
Cyanuric chloride, alkalicellulose compound with, 1009.  
—, cellulose derivative made using, 250.  
—, —, cellulose ether from alkalicellulose and, 298.  
—, celluloses ether made using, 250.  
—, see also *Tricyanogen chloride*.  
Cycadaceae, 1174.  
Cyclic acetals, cellulose acetate solvent, 644.  
Cyclic alcohols, 1981.  
Cyclic ketone, 1984.  
Cycloacetal, 1874, 1875.  
—, cellulose acetate solvent, 534.  
Cyclobutane, 1979, 1990.  
Cyclobutanone, 1984.  
—, cellulose acetate plastifier, 522.  
—, cellulose ether solvent, 213, 2088.  
—, filament, hollow, made using, 213, 2365.  
Cycloheptane, solubilizing agent, 2213.  
*Cycloheptanone*, see *Suberone*.  
Cyclohexadiene, solubilizing agent, 2213, 2219.  
*Cyclohexal acetate*, see *Cyclohexanyle acetate*.  
Cyclohexane, 1154, 1667, 1979, 1980.  
—, b. pt. methyl alcohol with, 1831.  
—, cellulose acetate precipitated by, 1043.  
—, cellulose ester coagulated by, 133.  
—, cellulose ether coagulated by, 133, 170, 2085, 2097.  
—, cellulose ether dyeing using, 2237.  
—, cellulose ether solvent, 2227.  
—, ethylcellulose purified by, 269.  
—, flash point, 2060.  
—, glass, laminated, made using, 2595.  
—, viscosity cellulose acetate in, 811.  
—, viscosity cellulose nitrate in, 811.  
Cyclohexanecarboxylic acid, 190, 1712, 1714.  
Cyclohexanol, 184, 1232, 1375, 1806, 1820, 1913, 1981, 1982, 1983, 1990.  
—, aluminum linoleate solvent, 458.  
—, aluminum resinate solvent, 458.  
—, amines solvent for, 2009.  
—, applications, 587.

- Cyclohexanol, benzylcellulose solvent, 1545, 1554, 1555.  
—, celluloid solvent, 890.  
—, cellulose acetate delustred by, 776.  
—, cellulose acetate dyed using, 547.  
—, cellulose acetate plastifier, 930, 939.  
—, cellulose acetate precipitated by, 1043.  
—, cellulose acetate softener, 582, 818, 938.  
—, cellulose acetate solvent, 810, 890, 1785.  
—, cellulose acetate swelling agent, 1014.  
—, cellulose ether coagulant, 2097.  
—, cellulose ether solvent, 50, 2409, 2543.  
—, cellulose ether spinning bath containing, 2083.  
—, cellulose nitrate plasticizer, 243.  
—, cobalt linoleate solvent, 458.  
—, cobalt resinate solvent, 458.  
—, delustring with, 210, 2181, 2189.  
—, ethylbutylcellulose and for lacquer mfr., 2426.  
—, ethylbutylcellulose solvent, 288.  
—, ethylpropylcellulose solvent, 288.  
—, filament cleaned by, 257.  
—, film cleaned by, 257.  
—, flash point, 2060.  
—, glass, laminated, made using, 2589.  
—, hydrogenation products of, stencil sheet, mfr. using, 519.  
—, manganese linoleate solvent, 458.  
—, manganese resinate solvent, 458.  
—, mfr., 584.  
—, methylbutylcellulose and for lacquer mfr., 2426.  
—, methylbutylcellulose solvent, 288.  
—, methylcellulose plasticizer, 243.  
—, methylpropylcellulose solvent, 288.  
—, mordant containing, 843.  
—, mordanting with, 2317.  
—, physical constants, 1792.  
—, ribbon cleaned by, 257.  
—, rubber solvent, 810, 2543.  
—, solubilizing agent, 2212.  
—, stains on cellulose acetate removed by, 755.  
Cyclohexanol, thread cleaned by, 257.  
—, tin linoleate solvent, 458.  
—, tin resinate solvent, 458.  
—, uses, 943, 1983.  
—, wetting agent, 2207.  
—, zinc linoleate solvent, 458.  
—, zinc resinate solvent, 458.  
Cyclohexanol acetate, 1981, 1982, 1986, 1989, 1990.  
—, cellulose acetate plasticizer, 408, 437.  
—, cellulose nitrate plasticizer, 408.  
Cyclohexanol adipate, 1989.  
—, cellulose acetate softener, 582.  
Cyclohexanol alcohol, cellulose ester coagulated by, 133.  
—, cellulose ether coagulated by, 133.  
Cyclohexanol diglycollate, cellulose acetate plastifier, 661.  
Cyclohexanol esters, 1988.  
Cyclohexanol-formaldehyde resin, constants of, 2055.  
Cyclohexanol formate, 1989.  
—, cellulose acetate plasticizer, 408, 437.  
—, cellulose nitrate plasticizer, 408.  
Cyclohexanol glycollate, 1942.  
Cyclohexanol ketone, cellulose acetate solvent, 813.  
Cyclohexanol lactate, mfr., 995.  
—, wetting out agent, 1236.  
Cyclohexanol methyladipate, 1989.  
Cyclohexanol oxalate, 1989.  
Cyclohexanol phenoxyacetate, 1982.  
Cyclohexanol phthalate, 1967, 1989.  
—, cellulose acetate plastifier, 533.  
—, cellulose nitrate plastifier, 533.  
Cyclohexanol-sulfoleate, cellulose ether dispersed by, 171.  
Cyclohexanol-sulforicinoleate, cellulose ether dispersed by, 171.  
Cyclohexanol thioglycollate, 1942.  
—, cellulose acetate plastifier, 661.  
Cyclohexanol 2,4,6-trichlorophenoxyacetate, 1982.  
Cyclohexanone, 184, 214, 223, 1084, 1155, 1784, 1863, 1877, 1885, 1945, 1976, 1977, 1981, 1982, 1983, 1984, 1985, 1986, 1987, 1988, 2046, 2629.  
—, acetic acid solvent, 905.  
—, airplane lacquer containing, 584.  
—, aluminum linoleate solvent, 458.  
—, aluminum resinate solvent, 458.  
—, benzyl alcohol substitute, 443.

- Cyclohexanone, benzylcellulose solvent, 1554, 1555.  
—, cellulose acetate lacquer containing, 402, 443.  
—, cellulose acetate plasticizer, 429, 437, 453, 493, 522.  
—, cellulose acetate pleating using, 602.  
—, cellulose acetate recovered by, 440.  
—, cellulose acetate relustred by, 604, 636, 723.  
—, cellulose acetate softener, 818.  
—, cellulose acetate solubility in, 1042.  
—, cellulose acetate solvent, 813, 1067, 1078.  
—, cellulose acetate solvent recovered by, 440.  
—, cellulose acetate swelling agent, 660, 800.  
—, cellulose ether delustred with, 185.  
—, cellulose ether dispersed in, 2452.  
—, cellulose ether emulsified in presence of, 2452.  
—, cellulose ether solvent, 50, 239, 283, 2356, 2375, 2543, 2640.  
—, cellulose nitrate solvent, 239.  
—, cellulose pretreated with, 655.  
—, cobalt linoleate solvent, 458.  
—, cobalt resinate solvent, 458.  
—, cyclohexanol made from, 584.  
—, delustring with, 185, 210, 2189.  
—, dilution ratio, 1786, 1787.  
—, emulsion containing, 2453.  
—, ethylcellulose, crystalline. solvent, 1336.  
—, flash point, 2060.  
—, glass, laminated, made using, 655.  
—, hydroxyethylcellulose acetate soluble in, 1614.  
—, lacquer containing, 2396, 2420, 2424.  
—, manganese linoleate solvent, 458.  
—, manganese resinate solvent, 458.  
—, plastic made using, 2577.  
—, record, phonograph, mfr. using, 515, 536.  
—, relustring cellulose acetate with, 723.  
—, relustring with, 2198, 2201.  
—, resin emulsion containing, 2453.  
Cyclohexanone, rubber solvent, 593, 1078, 2543.  
—, solvent, 1078.  
—, stains on cellulose acetate removed by, 755.  
—, tin linoleate solvent, 458.  
—, tin resinate solvent, 458.  
—, tolyl alcohol substitute, 443.  
—, triethylcellulose solvent, 1334.  
—, viscosity cellulose acetate in, 840.  
—, wetting out agents, 1235.  
—, zinc linoleate solvent, 458.  
—, zinc resinate solvent, 458.  
 $\Delta^x$ -Cyclohexan-1-on, cellulose acetate solvent, 699.  
—, flash point, 2060.  
Cyclohexanone acetate, properties, 698.  
Cyclohexanone-glycerol, cellulose ether plasticizer, 97.  
Cyclohexanyl acetate, 1989, 1990.  
—, cellulose ether emulsified in presence of, 2452.  
—, properties, 698.  
Cyclohexanyl adipate, 1992.  
Cyclohexanyl diglycollate, 1991.  
Cyclohexanyl formate, 1989.  
Cyclohexanyl glutarate, 1992.  
Cyclohexanyl succinate, 1992.  
Cyclohexanyl thiodiglycollate, 1991.  
Cyclohexyl acetate, 1340, 1945, 1990.  
—, cellulose acetate hydrolized in presence of, 927.  
—, dilution ratio, 1786, 1787.  
—, flash point, 2060.  
Cyclohexyl adipate, cellulose acetate softener, 582.  
—, cellulose acetate solvent, 699.  
*di*-Cyclohexyl adipate, flash point, 2060.  
Cyclohexylalkyl phthalate, 1992.  
Cyclohexylamine, 1900, 2384.  
—, 4-amino-1,8-naphthalic anhydride combined with, 305.  
—, cellulose acetate dyed using, 982, 2247.  
—, cellulose ether lacquer containing, 155.  
—, insulating using, 2438.  
—, lacquer containing, 2418.  
Cyclohexylamine chloride, acetic anhydride made using, 770, 865.  
Cyclohexylamine phosphate, acetic anhydride made using, 770, 865.  
Cyclohexylamine sulfate, acetic anhydride made using, 770, 865.



- 4-Cyclohexylaminoanthraquinone, 2250.  
 Cyclohexylamyl phthalate, 1976, 1989.  
 Cyclohexylbenzyl phthalate, 1976, 1977.  
 Cyclohexylbutylene glycol, cellulose acetate plastifier, 620.  
 Cyclohexylbutyl phthalate, 1989, 1992.  
 —, lacquer containing, 2397.  
 Cyclohexyl-*n*-butyl phthalate, 1976.  
 Cyclohexylcarbinol, cellulose ether coagulant, 2097.  
 Cyclohexylcarbinol alcohol, cellulose ester coagulated by, 133.  
 —, cellulose ether coagulated by, 133.  
 Cyclohexylcellulose oxalate, mfr., 870.  
 Cyclohexyl chloride, cellulose esterified using, 870.  
 Cyclohexylcyclohexene, mfr. of, 79.  
 Cyclohexyldiethanolamine, cellulose acetate dyed using, 676.  
 Cyclohexyl ether, mfr. of, 79.  
 Cyclohexylethylene glycol, cellulose acetate plastifier, 620.  
 Cyclohexyl glycollate, 1991.  
 Cyclohexylhexanol, mfr. of, 79.  
 Cyclohexylimide 4-amino-1,8-naphthate, cellulose ester dyed with, 195.  
 —, cellulose ether dyed with, 195.  
 Cyclohexyl nitrolactate, 1946.  
 Cyclohexyl-oxalyl chloride, mfr. of, 870.  
 Cyclohexyl phenoxyacetate, 1990, 1991.  
 —, cellulose nitrate plastic containing, 66.  
 Cyclohexylphenyl phthalate, 1976.  
 Cyclohexyl phthalate, 1976.  
 —, lacquer containing, 2397.  
 Cyclohexylpropylene glycol, cellulose acetate plastifier, 620.  
 Cyclohexylisopropyl phthalate, 1976.  
 Cyclohexyl 2,4,6-trichlorophenoxyacetate, 1990.  
 —, cellulose nitrate plastic containing, 66.  
 Cyclohexylxyl phthalate, 1976.  
 Cyclonaphthone, 1986.  
 Cyclopentane, 1979, 1980.  
 —, *see also* *Penta-methylene*.  
 Cyclopentane-carboxylic acid, 1712.  
 Cyclopentanol acetate, 1989.  
 Cyclopentanol ester, 1988.  
 —, cellulose acetate plasticizer, 408.  
 —, cellulose nitrate plasticizer, 408.  
 Cyclopentanol formate, 1989.  
 Cyclopentanone, 1883, 1984, 1985, 1986.  
 —, cellulose acetate solvent, 521.  
 —, cellulose ether solvent, 213, 2088, 2089.  
 —, filament, hollow, made using, 213, 2365.  
 —, wetting out agents, 1235.  
 Cyclopentene, cellulose ether solvent, 2227.  
 —, solubilizing agent, 2213, 2219.  
 Cyclopentyl, 1989.  
 Cyclopropane, 1979.  
 —, *see also* *Trimethylene*.  
*Cydonia*, *see* *Quince seed*.  
 Cylinder, impression, blankets for, 1097.  
 —, rust preventing by cellulose acetate, 394.  
*Cylinder cake*, *see* *Niter cake*.  
*Cylinders, phonograph*, *see* *Phonograph cylinders*.  
 Cymene, 1805, 1806.  
 —, bromo, cellulose ether inflammability reduced by, 182.  
 —, cellulose acetate precipitated by, 1043.  
 —, solubilizing agent, 2213, 2219.  
*p*-Cymene, 1806.  
 —, celluloid solvent, 890.  
 —, cellulose acetate solvent, 890, 1785.  
 Cymol, 1805, 1827.  
 —, *see also* *Cymene*.  
*m*-Cymol, *see* *m*-Methylpropylbenzene.  
*p*-Cymol, *see* *Cymene*.  
 Cymophenol, 1861.  
 —, *see also* *Carvacrol*.  
*b*-Cymophenol, *see* *Carvacrol*.  
 Cynae ether oil, 2044.  
 Daffodil, cellulose ether dyed, 2293.  
 Dahlia, inulin from, 1156.  
 Damask, cellulose acetate for effect of, 344.  
 —, effect of, cellulose ether for, 107.  
 Damask effect, 885, 2340.  
 —, permanent, 2340.

- Dammar, 139, 1588, 1911, 1921, 1927, 1972, 2042, 2044, 2053, 2054.  
—, amyl furoate solvent for, 1997.  
—, benzyl acetate solvent for, 1928.  
—, benzylcellulose and, 175.  
—, benzylcellulose combined with, 178.  
—, butyl acetate solvent of, 1919.  
—, butyl furoate solvent for, 1997.  
—, cellulose acetate plastic with, 442.  
—, cellulose ether size, 107.  
—, cellulose ether-varnish with, 135.  
—, cellulose nitrate plastic with, 442.  
—, cyclohexanone solvent of, 1985.  
—, cyclohexanyl acetate solvent of, 1990.  
—, dammar dichlorethane solvent for, 1816.  
—, dichlorethylene solvent for, 1821.  
—, dioxane solvent for, 1876.  
—, epichlorhydrin solvent for, 1842.  
—, ethylcellulose and, 175.  
—, ethylcellulose combined with, 178.  
—, ethyleneglycol monoethyl ether solvent for, 1851.  
—, ethyl furoate solvent for, 1997.  
—, ethylglycol solvent for, 1851.  
—, furfural solvent for, 1997.  
—, furfuryl alcohol solvent for, 1997, 1999.  
—, glass, laminated, made using, 691, 2587.  
—, lacquer containing, 2413.  
—, methylcellulose and, 175.  
—, methylcellulose combined with, 178.  
—, methyl furoate solvent for, 1997.  
—, paint containing, 2544.  
—, pentachlorethane solvent for, 1818.  
—, phosphorescence produced by, 1372.  
—, plastic containing, 879, 983.  
—, printing ink containing, 2329.  
—, propyl furoate solvent for, 1997.  
—, sizing with, 2141.  
—, solvents for, 1849.  
—, tetrahydrofurfuryl alcohol solvent for, 1997.  
—, trichlorethylene solvent for, 1825.  
—, *see also Resin.*
- Dammar resin, non-chalking composition containing, 1580.  
Datanol mordant, cellulose acetate dyed using, 705.  
*Dauterine, see Atropine.*  
Debye-Scherrer crystal analysis, 1144.  
Debye-Scherrer method, 895.  
Debye-Scherrer pattern, 1116, 1117.  
Debye-Scherrer rings, 1122.  
Decahydronaphthalene, 1808.  
—, cellulose ester coagulated by, 133.  
—, cellulose ether coagulated by, 133, 2085, 2097.  
—, cellulose ether dyeing using, 2238, 2288.  
—, cellulose ether plasticizer, 96.  
—, cellulose ether solvent, 1784, 1809, 2227.  
—, composition, 515.  
—, dye solvent, 684.  
—, filament cleaned by, 257.  
—, film cleaned by, 257.  
—, flash point, 2060.  
—, properties, 515.  
—, ribbon cleaned by, 257.  
—, solubilizing agent, 2219.  
—, stencil sheet made using, 2488.  
—, thread cleaned by, 257.  
Decahydro-*b*-naphthol, 1232.  
*Decalin, see Decahydronaphthalene.*  
Decamethyl-*b*-cellostrioxide, 1510.  
Decamethyl-*b*-methylcellostrioxide, 279, 1131.  
—, mfr. of, 230.  
Decanaphthene, cellulose ether solvent, 106, 2227.  
—, solubilizing agent, 2213.  
Decane, 1799.  
—, cellulose ester coagulated by, 133.  
—, cellulose ether coagulated by, 133, 2085, 2097.  
—, cellulose ether solvent, 106.  
—, cellulose ether spinning bath containing, 2083.  
—, filament cleaned by, 257.  
—, film cleaned by, 257.  
—, ribbon cleaned by, 257.  
—, thread cleaned by, 257.  
*n*-Decane, celluloid solvent, 890.  
—, cellulose acetate solvent, 890.  
*Decoic acid, see Capric acid.*  
Decolorizing, peat for, 1165.  
Decroline, 2319.  
—, discharge effect by, 674.

- Decylic acid*, see *Capric acid*.  
*De-esterification*, see *Saponification*.  
 Degreasing, cellulose acetate, 684.  
*Dehydration*, see *Cellulose nitrate*, *dehydration*.  
 Dehydrothiitoluidine, benzylcellulose stabilizer, 1565.  
 —, cellulose acetate dyed using, 750.  
 —, cellulose ether dyed using, 2268.  
 —, ethylcellulose stabilizer, 1565.  
 Dehydrothio-*m*-toluidine, 180.  
 Dehydrothio-*p*-toluidine, cellulose acetate dyed using, 776.  
 —, cellulose ether dyed using, 2286.  
 Dehydrothio-*p*-toluidinesulfonic acid, cellulose acetate dyed using, 845.  
*Dekalin*, see *Decahydronaphthalene*.  
 Delustring, 146, 213, 260, 261, 266, 270, 271, 273, 274, 283, 285, 304, 305, 656, 849, 895, 937, 946, 1013, 1017, 1022, 1037, 2173, 2191, 2645.  
 —, abrasion, 2193.  
 —, acetic acid for, 500.  
 —, aluminum oxide for, 274.  
 —, ammonium for, 500.  
 —, ammonium sulfate for preventing, 999.  
 —, barium sulfate for, 164, 2148.  
 —, bentonite for, 275.  
 —, calcium for, 500.  
 —, cresols for preventing, 197.  
 —, decreasing, 2192.  
 —, diacetin for preventing, 197.  
 —, diacetone alcohol for preventing, 197.  
 —, diacetylbenzidine for, 274.  
 —, diacetyltoluidine for, 274.  
 —, dibenzoylbenzidine for, 274.  
 —, diethyl tartrate for preventing, 197.  
 —, *a*-dinaphthylurea for, 274.  
 —, 4,4'-dithioureidobiphenyl for, 274.  
 —, 4,4'-diureidobiphenyl for, 274.  
 —, ethylbenzylcellulose for, 1593.  
 —, hydroquinone for preventing, 197.  
 —, kaolin for, 275.  
 —, mechanical, 2193.  
 —, organic compounds for, 2183.  
 —, phthalimide for preventing, 197.  
 —, potassium thiocyanate for, 500.  
 —, preventing, 105, 861, 2192.  
 —, resorcinol for preventing, 197.  
 Delustring, sodium sulfate for preventing, 999.  
 —, solvent, 2188.  
 —, steam for, 500, 2190.  
 —, thiocarbonylbenzidine for, 274.  
 —, titanium dioxide for, 274.  
 —, water, 2190.  
 Denier, fine, producing, 263.  
*Denitrating*, see *Cellulose*, *denitrating*; *Spent acid*, *denitrating*.  
 Denitration, sodium hydrosulfide for, 353.  
 Dental plate, 107, 614, 916.  
 —, mfr., 2537.  
 Dentistry, benzylcellulose in, 1581.  
 —, cellulose ether in, 2645.  
 —, prosthetic, cellulose ethers in, 2536.  
 Denture, cellulose acetate for mfr. of, 614, 2538.  
 —, cellulose ether for mfr., 107, 614.  
 —, vulcanite for, 107.  
 Design, surface, cellulose ether for, 2350.  
 —, transfer, cellulose ether for, 191.  
 Desizing, 2143.  
 —, cellulose acetate, 678, 684.  
*Desoxyalizarin*, see *Anthraxarobin*.  
 Desoxyns, oxidation of, 7.  
 Detergent, cellulose, alkylated, as base for mfr. of, 87.  
 —, dextrin, alkylated, as base for mfr. of, 87.  
 —, inulin, alkylated, as base for mfr. of, 87.  
 —, inulin ether in, 1161.  
 —, lichenin, alkylated, as base for mfr. of, 87.  
 —, starch, alkylated, as base for mfr. of, 87.  
 Dextrin, 1368, 2055.  
 —, alkylated, cosmetic mfr. using, 87.  
 —, alkylated, detergent mfr. using, 87.  
 —, alkylated, disinfectant mfr. using, 87.  
 —, alkylated, soap mfr. using, 87.  
 —, allyl ether of, mfr., 99.  
 —, benzylation of, 1297, 1516.  
 —, benzyl esters of, mfr., 1514.  
 —, benzyl ether of, 69.  
 —, butyl chloride for etherification of, 100.  
 —, cellulose acetate dyed in presence of, 651.

- Dextrin, cellulose acetate fabric treated with, 631.  
—, diphenylethylene oxide compound with, 64.  
—, esterifying, 795.  
—, etherifying, 239, 1418, 1453.  
—, ethers of, 82.  
—, ethyl chloride for etherification of, 100.  
—, ethylene imide compound with, 64.  
—, ethylene sulfide compound with, 64.  
—, fabric printed using, 2344.  
—, fumacylglycidic acid compound with, 64.  
—, glycidic acid compound with, 64.  
—, methyl chloride for etherification of, 100.  
—, methylphenylethylene oxide compound with, 64.  
—, paper waterproofed by, 645.  
—, *iso*-propyl chloride for etherification of, 100.  
—, *n*-propyl chloride for etherification of, 100.  
—, propylene oxide compound with, 64.  
—, sizing with, 2140.  
—, textiles waterproofed by, 645.  
—, thickener, 1415.  
—, *p*-toluenesulfonic acid action on, 795.  
—, trimethyleneoxide compound with, 64.  
Dextrin acetate, 419.  
—, properties, 313.  
*limit*-Dextrin acetate, 964.  
Dextrin ethyl ether, 44, 1160.  
Dextrinose, 885.  
Dextrin phenolsulfonate, 1495.  
Dextrins, ethers of, 44.  
—, methylation, 1065.  
*Dextro*-compounds, *see d*-Compounds.  
Dextroform, 1618.  
Dextrose, 25, 205, 659, 885, 1109, 1127, 1132, 1135, 1329.  
—, *Acetobacter xylinum* action on, 1109.  
—, acetylating, 837.  
—, cellulose formed from, 1109.  
—, methylated, 31.  
—, phenyl derivatives of, 7.  
Dextrose acetate, 25, 357, 418, 659.  
—, dialyzing, 739.  
Dextrose linoleate, mfr., 533.  
Dextrose pentacetate, 433, 658.  
—, *see also* *Pentacetyldextrose*.  
Dextrose *a*-pentacetate, 1708.  
—, properties, 895.  
Dextrose *a*-penta-laurate, 1708.  
—, properties, 895.  
Dextrose *a*-penta-palmitate, 1708.  
—, properties, 895.  
Dextro-tetramethylmethylfructoside, 1506.  
*Dextrotropic acid*, *see Tropic acid*.  
*Diabetin*, *see Levulose*.  
Diacetanilid, 2022.  
—, cellulose acetate solvent, 1818.  
Diacetic ether, 2026, 2027.  
—, cellulose ether solvent, 1841.  
—, *see also Ethyl acetoacetate*.  
Diacetin, 204, 1923, 1965, 1968, 1970, 2003.  
—, benzylcellulose plastifier, 2597.  
—, cellulose acetate plastifier, 385, 398, 550, 862.  
—, cellulose acetate softener, 1074.  
—, cellulose ether softener, 2153, 2156, 2183.  
—, cellulose ether solvent, 139, 2077.  
—, cellulose ether spun using, 2089.  
—, cellulose ether swelling agent, 217, 2221.  
—, cellulose treated with, 204.  
—, delustring prevented, 197.  
—, delustring with, 210, 217, 2188, 2189.  
—, dispersing agent for, 2213.  
—, ethylcellulose plastifier, 2597.  
—, film made using, 2506, 2509.  
—, film curling prevented by, 532.  
—, hollow filaments produced using, 2365.  
—, ink containing, 2475.  
—, methylcellulose plastifier, 2597.  
—, physical constants, 1793.  
—, printing paste containing, 2328.  
—, swelling cellulose ether with, 217.  
—, *see also Glycerol diacetate*.  
Diacetochlorhydrin, 1844.  
—, cellulose acetate solvent, 472, 1818, 1819, 1843.  
*aa'*-Diacetodiethyl ether, mfr., 1047.  
Diacetone, glass, laminated, made using, 655.  
Diacetone adonite, 1886, 1894.  
Diacetone alcohol, 266, 837, 1696, 1811, 1846, 1849, 1851, 1859, 1875, 1884, 1885, 1887, 1906, 1907, 1944,

- 1945, 1968, 1982, 1986, 1993, 2076, 2364, 2393.
- Diacetone alcohol, benzylcellulose solvent, 1588.
- , cellulose acetate lacquer containing, 513.
- , cellulose acetate pleating using, 602.
- , cellulose acetate softener, 661.
- , cellulose acetate solubility in, 1042.
- , cellulose acetate solvent, 393, 513, 521, 566, 890, 944, 1029, 1067, 1785, 2075.
- , cellulose acetate solvent mixture containing, 574.
- , cellulose acetate spinning solution containing, 775.
- , cellulose acetate swelling agent, 501.
- , cellulose ester ink containing, 964.
- , cellulose ether softener, 2134, 2135, 2153, 2156, 2183.
- , cellulose ether solvent, 2075, 2077, 2088, 2089, 2375, 2640.
- , cellulose ether swelling agent, 110, 2221.
- , cellulose ether wetted out by, 172.
- , cellulose nitrate solvent, 393.
- , cellulose pretreated with, 655.
- , cellulose solvent, 890.
- , coating compounds containing, 1007.
- , delustring prevented by, 197.
- , delustring, 2188.
- , dye stripped using, 2320.
- , film made using, 2519.
- , glass, laminated, made using, 2586.
- , ink, containing, 2330, 2475.
- , luster preserving by, 2171.
- , mfr., 1066.
- , physical constants, 1792.
- , relustring with, 216, 2201.
- , tricresyl phosphate and as solvent, 1905.
- , wetting agents, 1235, 2207.
- Diacetoneamine, 1887.
- Diacetone arabite, 1857, 1874, 1886, 1894.
- Diacetone erythrite, 1857.
- α*-Diacetonefructose, 1505.
- Diacetone mannite, 1857.
- Diacetone mannitol, 1504.
- Diacetone mannose, 1503.
- Diacetone-6-methylgalactose, 1501.
- Diacetonemethylmannose, 1503.
- Diacetone oil, 1886.
- , lacquer containing, 2391.
- Diacetonerybite, 1886, 1894.
- Diacetonyl alcohol*, see *Diacetone alcohol*.
- Diacetonyl phthalate, 1793.
- Diacetylacetone, composition, 515.
- , properties, 515.
- Diacetyl alcohol*, see *Diacetone alcohol*.
- Diacetyl-amino-anthraquinone, cellulose acetate dyed using, 602.
- , cellulose ether dyed using, 2253.
- Diacetylaniline, 2016.
- , cellulose acetate solvent, 507.
- Diacetylbenzidine, cellulose acetate delustred by, 962.
- , delustring by, 274, 932.
- , dull effect produced using, 2363.
- , matt effect produced using, 2363.
- Diacetylcellulose*, see *Cellulose diacetate*.
- 1,4-Diacetyldiaminoanthraquinone, cellulose ether dyed using, 2266.
- Diacetyl-3,5-dibrom-2-toluid, benzylcellulose and, 1574.
- Diacetyl-3,4-dibrom-2-toluidide, benzylcellulose treated with, 1563.
- Diacetyl-3,5-dibrom-2-toluidide, 2020.
- , cellulose ether inflammability reduced by, 179.
- , cellulose ether plasticizer, 227.
- , fire-retardant, 1374.
- , inflammability cellulose esters reduced by, 752.
- Diacetyldiglyceryl diacetylsalicylate, 1165.
- Diacetyl-*o,o'*-dimethylol-*p*-cresol *p*-toluenesulfonate, 2034.
- Diacetyldioxime*, see *Dimethyl glyoxime*.
- Diacetylhexamethylcellobiose, 1322.
- , mfr. of, 232.
- 2,4-Diacetyl-3-methyl-6-triphenylmethyl-*B*-methyl-*d*-glucoside, 1508.
- Diacetyl nitric acid, 888.
- Diacetyl-*o*-nitric acid, 269, 1063, 1672, 1673, 1696.
- Diacetyltartaric acid esters, cellulose acetate solvent, 400.
- Diacetyltolidine, cellulose acetate delustred by, 962.

- Diacetyltolidine, delustring by, 274, 2185.
- 1.6-Diacetyl-2.3.4-tribenzoylglucoside, 737.
- Diacetyl-2.4.6-tribromanilid, 2020.
- , cellulose ether plasticizer, 227.
- , plastic containing, 2570.
- Diacetyl-2.4.6-tribromaniline, cellulose acetate plasticizer, 853.
- Diacetyl-2.4.5-tribrommethylanilid, fire-retardant, 1374.
- Diacetyl-2.4.6-tribrommethylanilid, benzylcellulose and, 1574.
- , fire-retardant, 1374.
- Diacetyl-1.3.6-tribrom-*b*-naphthalid, 2020.
- Diacetyl-1.3.6-tribrom-2-naphthalid, benzylcellulose treated with, 1563.
- , cellulose ether inflammability reduced by, 179.
- , fire-retardant, 1374.
- , inflammability cellulose esters reduced by, 752.
- Diacetyl-triethylglucose, 1368.
- Dial*, see *Diacetone alcohol*.
- Dialdan, 1865.
- sym*-1.4-Dialkylaminoanthraquinone, cellulose acetate dyed using, 612.
- Di-alkylamino-2-hydroxybenzophenone-2'-carboxylic acid, cellulose ester dyed using, 245.
- , cellulose ether dyed using, 245.
- Dialkylanilid, carbonic acid, delustring with, 2184.
- Dialkylaniline, 1747, 1749.
- , cellulose ester etherified in presence of, 1434.
- , cellulose ether solvent, 106.
- Dialkylcellulose, 1671.
- Dialkylene glycol phosphate monoalkyl ether, cellulose ester plasticizer, 300.
- , cellulose ether plasticizer, 300.
- Dialkylene glycol phosphate monoamyl ether, cellulose ester plasticizer, 300.
- , cellulose ether plasticizer, 300.
- Dialkylene glycol phosphate monobutylether, cellulose ester plasticizer, 300.
- , cellulose ether plasticizer, 300.
- Dialkylene glycol phosphate monoethyl ether, cellulose ester plasticizer, 300.
- , cellulose ether plasticizer, 300.
- Dialkylene glycol phosphate monomethyl ether, cellulose ester plasticizer, 300.
- , cellulose ether plasticizer, 300.
- Dialkylene glycol phosphate monopropyl ether, cellulose ester plasticizer, 300.
- , cellulose ether plasticizer, 300.
- Dialkyl ethers of ethyleneglycol, hollow filaments produced using, 2365.
- Dialkylethylenediamine, 1766.
- Dialkyl itaconate, cellulose acetate plasticizer, 844.
- , glass, laminated, made using, 2588.
- Dialkyl mannitol, 1974.
- Dialkyl naphthylamine, 1747, 1749.
- , cellulose ester etherified in presence of, 1434.
- Dialkyl pentaerythrite, 1973.
- Dialkyl phthalate, 1973.
- , plastic made using, 997.
- Dialkyl sorbitol, 1974.
- Diallylcellulose, 1637.
- , mfr., 163, 208.
- Diallylcellulose tetrabromide, 163, 1637.
- , mfr. of, 208.
- Dialuramide*, see *Uramil*.
- Dialysis, Cellophane, for, 913.
- , cellulose acetate for, 913.
- , cellulose acetate membranes for, 439, 638.
- , cellulose acetate solvent, 524.
- , cellulose ester purified by, 1465.
- , ultra-filter, cellulose ether for, 2458.
- p*-Diamido-diphenyl, see *Benzidine*.
- o*-Diamido-ditolyl, see *Tolidin*.
- Diamido*, see *Amidol*.
- Diamidogen sulfate*, see *Hydrazine sulfate*.
- o*-Diamine, 2015.
- Diamine black BH, cellulose acetate dyed using, 676.
- , cellulose ether dyed using, 2311.
- 4.4'-Diamine-3-methoxy-6-methylazobenzene, 2638.
- Diamine sulfate*, see *Hydrazine sulfate*.
- 1.5-Diamino-4.8-bisacetamido-anthraquinone, cellulose acetate dyed using, 602.
- 2.5-Di-(*p*-aminoanilino)-*p*-benzoquinone, cellulose acetate dyed using, 751.

- Diaminoanthraquinone, cellulose acetate dyed using, 749.  
—, cellulose ether dyed using, 181, 2232, 2268.  
*α*-Diaminoanthraquinone, cellulose ether dyed using, 2258.  
1.4-Diamino-anthraquinone, 2319.  
—, cellulose acetate dyed with, 492, 493, 503, 612, 649, 846, 879, 925, 3245.  
—, cellulose ester dyed with, 197.  
—, cellulose ether dyed with, 165, 197, 2222, 2251, 2253, 2257, 2258, 2262, 2264, 2267, 2280.  
—, dispersing, 2209.  
—, film colored by, 2519.  
—, monosulfonated, cellulose acetate dyed using, 643.  
—, printing fabric with, 1000.  
1.5-Diaminoanthraquinone, cellulose acetate dyed with, 551, 612, 846.  
—, cellulose ether dyed using, 2251, 2257, 2258.  
1.6-Diaminoanthraquinone, cellulose ether dyed using, 2264.  
1.7-Diaminoanthraquinone, cellulose acetate dyed using, 879.  
—, cellulose ether dyed using, 2264.  
1.8-Diaminoanthraquinone, cellulose acetate dyed using, 612, 846.  
—, cellulose ether dyed using, 2251, 2257, 2258.  
1.4-Diaminoanthraquinone-2-carboxylamide, cellulose acetate dyed using, 2247.  
—, cellulose ester dyed using, 285.  
—, cellulose ether dyed using, 285.  
1.4-Diaminoanthraquinone-2-carboxylmethylamide, cellulose acetate dyed using, 2247.  
1.4-Diaminoanthraquinone-2-carboxylmethylanilid, cellulose acetate dyed using, 2247.  
Diaminoanthraquinone chloride, cellulose acetate dyed using, 925.  
1.4-Diaminoanthraquinone-2-glycol ether, cellulose ether dyed using, 2265.  
Diaminoanthraquinone hydrohalide, cellulose ether dyed using, 2280.  
1.4-Diaminoanthraquinone-N-methylsulfonate, cellulose ether dyed using, 2275.  
1.4-Diaminoanthraquinone-N-methyl sulfonic acid, cellulose ether dyed by, 112.  
—, ethylcellulose dyed by, 112.  
1.4-Diaminoanthraquinone-2-sulfonic acid, cellulose ether dyed with, 125, 2260.  
Diaminoanthrarufin, cellulose acetate dyed using, 612, 859.  
—, cellulose ether dyed using, 2257, 2258.  
*p,p*-Diaminoanthrarufin, cellulose acetate dyed using, 761.  
—, cellulose ether dyed using, 2281.  
4.8-Diaminonanthrarufin-2.6-disulfonic acid, cellulose acetate dyed using, 1010.  
—, cellulose ether dyed using, 2250.  
4.8-Diaminoanthrarufin-2-sulfonic acid, sulfonated, cellulose ether dyed using, 298.  
Diaminoazo colors, cellulose ether dyed using, 2259.  
4.4'-Diaminobenzene-1-azonaphthalene, 1086.  
2.5-Diaminobenzoquinone, cellulose ester dyed with, 180.  
—, cellulose ether dyed with, 180.  
—, dispersing, 2209.  
1.5-Diamino-4.8-bisacetamidanthraquinone, cellulose ether dyed using, 2253.  
Diaminochrysazin, cellulose acetate dyed using, 612, 859.  
—, cellulose ether dyed using, 2257, 2258.  
1.4-Diamino-2.3-dialkoxyanthraquinone, cellulose ether dyed using, 2253.  
1.5-Diamino-4.8-(4'4''-diamino)-dianilinoanthraquinone, cellulose ether dyed using, 2274.  
1.4-Diamino-2.3-*di-n*-butoxyanthraquinone, cellulose ether dyed using, 2264.  
1.4-Diamino-2.3-diethoxyanthraquinone, cellulose ether dyed using, 2264.  
1.4-Diamino-5.8-dihydroxyanthraquinone, cellulose ester dyed using, 290.  
—, cellulose ether dyed using, 290, 2265.  
1.4-Diamino-2.3-dimethoxyanthraquinone, cellulose ether dyed using, 2264.

- 1.4-Diaminodimethyl-anthraquinone, printing fabric with, 1000.
- 4.4'-Diamino-3.3'-dimethyldiphenylurea, 2054.
- 1.5-Diamino-4.5-dinitroanthraquinone, cellulose ester dyed with, 256.  
—, cellulose ether dyed with, 256, 2250.
- 1.5-Diamino-4.8-dinitroanthraquinone, cellulose ester dyed with, 256.  
—, cellulose ether dyed with, 256, 2250.
- 1.8-Diamino-4.5-dinitroanthraquinone, cellulose ester dyed with, 256.  
—, cellulose ether dyed with, 256, 2250.
- 1.8-Diamino-4.8-dinitroanthraquinone, cellulose ester dyed with, 256.  
—, cellulose ether dyed with, 256, 2250.
- 1.4-Diamino-2.3-dioxyanthraquinone ethers, cellulose ether dyed using, 2297.
- p*-Diaminodiphenyl, *see* Benzidine.
- Diaminodiphenylamine, cellulose acetate combined with, 583.
- pp'*-Diaminodiphenylamine, cellulose acetate dyed using, 503.
- 2.4-Diaminodiphenylamine, 2347.  
—, cellulose acetate dyed using, 714, 745, 798.  
—, cellulose ester dyed black using, 267.  
—, cellulose ether dyed black using, 267.
- , cellulose ether dyed with, 2270, 2271, 2284, 2302, 2304, 2305, 2306.  
—, cotton dyed black using, 267.
- 1.5-Diamino-4.8-diphenylaminoanthraquinone, cellulose ether dyed with, 165, 2274, 2279.
- 1.5-Diamino-5.8-diphenylamineanthraquinone, cellulose acetate dyed using, 846.
- 4.4'-Diaminodiphenylcarbamide, cellulose ether dyed with, 179.
- 4.4'-Diaminodiphenyl disulfide, 2635.  
—, cellulose acetate dyed using, 610.
- Diaminodiphenylmethane, tetrazo compounds of, cellulose acetate dyed using, 504.
- 4.4'-Diaminodiphenylmethane, 1744.
- 4.4'-Diaminodiphenyl monosulfide, cellulose acetate dyed using, 610.
- 4.4'-Diaminodiphenyl sulfide, cellulose acetate dyed using, 610.
- 4.4'-Diaminodiphenyl sulfide oxamic acid, cellulose acetate dyed using, 883.
- 4.4'-Diaminodiphenyl trisulfide, cellulose acetate dyed using, 610.
- pp'*-Diaminodiphenylurea, 2054, 2287.
- 1.4-Diamino-2-hydroxyanthraquinone, cellulose ether dyed using, 2261, 2277.  
—, cellulose ether dyed by ethers of, 122.
- 1.4-Diamino-2-hydroxyanthraquinone compound, dye from, 207.
- 1.4-Diamino-2-hydroxyanthraquinone ethers, cellulose ester dyed with, 197.  
—, cellulose ether dyed with, 197.
- 1.4-Diamino-2-methoxy-anthraquinone, 2319.  
—, cellulose acetate dyed using, 1085.  
—, cellulose ether dyed using, 2261.
- 4.4'-Diamino-2-methoxy-2'.5'-dimethylazobenzene, 1086.
- 1.8-Diamino-5-methylamino-4-hydroxyanthraquinone, cellulose acetate dyed using, 1010.  
—, cellulose ether dyed using, 2250.
- 1.4-Diamino-oxyanthraquinone, cellulose ether dyed using, 2260.
- Diaminophenanthraquinone, cellulose acetate dyed using, 673.
- 1.4-Diamino-2.3-phenoxyanthraquinone, cellulose ether dyed with, 65.  
—, ethylcellulose dyed using, 2229.
- 1.5-Diamino-4-phenylamino-anthraquinone, cellulose acetate dyed using, 846.  
—, cellulose ether dyed using, 2251.
- 2.5-Di(*p*-aminophenylamino)-benzoquinone, cellulose ester dyed with, 180.  
—, cellulose ether dyed with, 180, 2286.
- 2.4-Diaminophenylmethanesulfonic acid, cellulose ester dyed with, 157.  
—, cellulose ether dyed with, 157, 2264.
- 7.7'-Diaminothioindigo, cellulose acetate dyed using, 597, 2253.



- Diaminotoluene*, see *Toluylene diamine*.
- 3.6-Diamin-2.7.10-trimethylacridine, methyl chloride in mfr. of, 1253.
- Diammonium citrate, antacid, 1563.
- , benzylcellulose stabilizer, 1563.
- Diamond fuchsin, cellulose acetate dyed using, 548, 672, 2235.
- , cellulose ether dyeing using, 2237.
- Diamond green, 1985.
- Diamyl*, see *Amyl*, *Monoamyl*, *Triamyl*.
- Diamylbenzene, lacquer containing, 2393.
- Diamylbutylene glycol ether, cellulose acetate solvent, 665.
- Diisoamylbutyl phosphate, 1897.
- , cellulose ether plasticizer, 194.
- Diamylcresyl phosphate, 1896.
- Diisoamylcyclohexyl phosphate, 1897.
- , cellulose ether plasticizer, 194.
- Diamyl diglycollate, 1991.
- , cellulose acetate plastifier, 661.
- Diamylene, 1809.
- Diamylene glycol phosphate monoalkyl ether, cellulose ester plasticizer, 300.
- , cellulose ether plasticizer, 300.
- Diamylene glycol phosphate monoamyl ether, cellulose ester plasticizer, 300.
- , cellulose ether plasticizer, 300.
- Diamylene glycol phosphate monobutyl ether, cellulose ester plasticizer, 300.
- , cellulose ether plasticizer, 300.
- Diamylene glycol phosphate monoethyl ether, cellulose ester plasticizer, 300.
- , cellulose ether plasticizer, 300.
- Diamylene glycol phosphate monopropyl ether, cellulose ester plasticizer, 300.
- , cellulose ether plasticizer, 300.
- Diamyl ether*, see *Amyl oxide*.
- Diamylethylene glycol ether, cellulose acetate solvent, 665.
- Diamyl fumarate, 1950.
- Diamylglycollate, 1942.
- Diamyl ketone, 1878.
- Diamyl ketone, cellulose ether solvent, 52.
- Diamyl maleate, 1950.
- Diamyl malonate*, see *Amyl malonate*.
- Di-act-amyl malonate, 1949.
- Diamyl-naphthylaminesulfonic acid, wetting out agent, 1375.
- Diamyl-naphthyl phosphate, 1896.
- Diamylose, methylating, 1471, 1481.
- Diamylose acetate, molecular weight of, 1493.
- Diamyl oxalate, 2027.
- , cellulose acetate solvent, 445.
- , see also *Amyl oxalate*.
- Diamylphenyl phosphate, 1896.
- Diamyl phthalate, 1944, 1965, 2415.
- , cellulose ether plasticizer, 118, 146, 1371.
- , cellulose, regenerated, permeability of, reducing by, 167.
- , lacquer, unflammable, made using, 670.
- , plasticizing value, 1794.
- , properties, 728.
- , stencil sheet made using, 763.
- , see also *Amyl phthalate*.
- Diamylpropylene glycol ether, cellulose acetate solvent, 665.
- Diamyl succinate*, see *Amyl succinate*.
- Di-iso-amyl sulfate, 1281.
- Diisoamyl sulfone, 39, 2001.
- , cellulose acetate solvent, 509.
- , cellulose nitrate solvent, 509.
- Diamyl tartrate, 1951.
- , physical constants, 1793.
- , see also *Amyl tartrate*.
- s-Diisoamylthiocarbamide, cellulose ester dyed using, 264.
- , cellulose ether dyed using, 264, 2269.
- Diamyl thioglycollate, 1942, 1991.
- , cellulose acetate plastifier, 661.
- sym-Diisoamylthiourea, cellulose ether dyed using, 2269.
- Dianhydromannitol, 1858.
- Dianhydrosorbitol, 1858.
- Dianilids, carbonic acid, delustring with, 2184.
- 1.5-Dianilinoanthraquinone, cellulose acetate dyed using, 612.
- 2.5-Dianilino-p-benzo-quinone, cellulose acetate dyed using, 751.
- 1.8-Dianilino-4.5-diaminoanthraquinone, cellulose ether dyed using, 2274.

- Dianil yellow R, cellulose acetate dyed using, 672.  
Dianisidine, 1086.  
—, benzylcellulose dyed with, 123, 2230.  
—, cellulose acetate dyed using, 504, 649, 676.  
—, cellulose acetate impregnated with, 360.  
—, cellulose ether dyed using, 2282, 2311.  
—, developer, 2346.  
—, diazotized, cellulose ester dyed using, 300.  
—, —, cellulose ether dyed using, 300.  
—, discharge effect with, 2347.  
—, dispersing, 2209.  
—, flash point, 2060.  
—, tetrazo compounds of, cellulose acetate dyed using, 504.  
—, tetrazotized, cellulose ester dyed using, 290.  
—, —, cellulose ether dyed using, 290.  
—, —, lacquer colorant, 2421.  
o-Dianisidin, amines solvent for, 2009.  
Dianisidin chloride, cellulose ether dyed using, 2271, 2282, 2300.  
Dianisidin hydrochloride, cellulose acetate dyed in presence of, 510.  
1,2'-Dianthraquinonylaminesulfonic acid, cellulose acetate dyed with, 637.  
2,6-Di-a-anthraquinonesulfonic acid, cellulose acetate dyed with, 637.  
Diaphragm, acoustic, cellulose acetate in mfr., 904.  
—, cellulose acetate in mfr. of, 543.  
Diarylamine, cellulose ether dyed by dyes of series, 141.  
—, unsymmetrical, benzylcellulose stabilizer, 1575.  
Diaryl mannitol, 1974.  
Diaryl pentaerythritol, 1973.  
Diaryl phthalate, 1973.  
Diaryl sorbitol, 1974.  
Diarylthioureas, cellulose ether dyed using, 2286.  
Diarylureas, cellulose ether dyed using, 2286.  
Diastase, 1473.  
Diastofor, scroop produced by, 593.  
*Diateribinic anhydride*, see *Terebic acid*.  
Diatol, 1907.  
—, see also *Diethyl carbonate*; *Ethyl carbonate*.  
Diatomite, cellulose ether purified by, 1465.  
Diazine black OB, cellulose ether dyed using, 2292.  
Diazine red 5BL, cellulose ether dyed using, 2292.  
*Diazoamidobenzol*, see *Diazoamidobenzene*.  
Diazoaminobenzene, amines solvent for, 2009.  
Diazobenzene, 1087.  
Diazobenzene chloride, cellulose ether dyed using, 2265.  
*Diazobenzolanilid*, see *Diazoamidobenzene*.  
Diazobisphenol, cellulose ether dyed using, 2254.  
Diao Black B, cellulose ether dyed using, 2289.  
Diao Black BN, cellulose ether dyed using, 2289.  
Diao Black J, cellulose ether dyed using, 2289.  
Diao-p-dinitrobenzene, 2643.  
Diao Fast Black, cellulose ether dyed using, 2226.  
Diazomethane, 163, 733, 1160, 1164, 1306, 1309, 1329, 1389, 1481, 1629, 1632.  
Diazomethane, cellulose methylated by, 94, 95.  
—, etherifying with, 1291.  
—, mfr., 1292.  
—, preparation, 1329.  
Diazotypes, mfr., 2534.  
—, negative, mfr., 2534.  
Dibenzamide, stabilizer, 1564.  
Dibenzene sulfanilid, cellulose ether plastifier, 175.  
Dibenzenesulfo-2,7-dioxynaphthalin, 2043.  
Dibenzenesulfonanilid, 2024.  
*Dibenzoyl*, see *Benzil*.  
Dibenzolbenzidine, cellulose acetate delustred by, 962.  
—, delustering by, 274, 932, 2185.  
—, dull effect produced using, 2363.  
—, matt effect produced using, 2363.  
Dibenzoyldiphenylethane, 1810.  
—, cellulose acetate plastifier, 534.  
Dibenzoyldiphenylethane phosphate, 1810.

- Dibenzoyldiphenylethane *p*-toluene-sulfonate, 1810.  
2,5-Di-*B*-benzoylpropionic acid, cellulose acetate dyed using, 751.  
Dibenzoylquinonestyrene acetate, 330.  
Dibenzyl, 1539, 1928.  
—, cellulose ether containing, 145.  
—, *see also Benzyl, Monobenzyl, Tribenzyl*.  
Dibenzylamine, 1913, 2016.  
—, cellulose ether solvent, 51.  
Dibenzylaniline, benzylcellulose stabilizer, 1574.  
—, butylcellulose combined with, 282, 1341.  
—, butylcellulose stabilizer, 1574.  
—, coating containing, 282.  
—, film containing, 282.  
—, lacquer containing, 282, 2416.  
—, stabilizer, 1574.  
Dibenzylcellulose, 1318, 1511, 1513, 1519, 1544.  
—, composition, 1524.  
—, mfr., 207.  
—, percentage composition, 1511.  
—, purifying, 171.  
—, solubility, 1554.  
—, tribenzylcellulose from, 207.  
—, viscosity, 1557.  
Dibenzyl-*p*-chlorbenzenesulfamid, 2043.  
Dibenzyl-*p*-chlorbenzenesulfanilid, 2043.  
Dibenzylidioxidyphenylethane, 1810.  
—, cellulose acetate plastifier, 534.  
Dibenzyl ether, 1769, 1870, 1928.  
—, benzyl alcohol impurity, 1862.  
—, cellulose acetate plasticizer, 398.  
—, ethylcellulose xanthanilide solvent, 1644.  
—, flash point, 2060.  
Dibenzylglyceryl ether, 1874.  
Dibenzylglycol, 1874.  
Dibenzylideneacetone, 1888, 1890.  
Dibenzylin, 1995, 2017.  
*Dibenzyl malonate, see Benzyl malonate*.  
Dibenzylmethylglucoside, 1517.  
—, mfr. of, 69.  
*Dibenzyl oxalate, see Benzyl oxalate*.  
Dibenzyl oxide, 1872, 1873.  
Dibenzylpentaerythrite, cellulose ether solvent, 222.  
Dibenzylphthalate, 1978.  
—, *see also Benzyl phthalate*.  
Dibenzyl starch, 1516.  
—, mfr. of, 69.  
Dibenzyl succinate, 1949.  
—, *see also Benzyl succinate*.  
Dibenzyl sucrose, 1517.  
—, mfr. of, 69.  
Dibenzyl sulfate, 1432.  
Dibenzyl tartrate, 1951.  
—, cellulose acetate plasticizer, 954.  
—, lacquer containing, 2395.  
—, *see also Benzyl tartrate*.  
Dibenzyl-*p*-toluenesulfamid, 2043.  
Dibenzyl-*p*-toluenesulfoanilid, 2043.  
Dibenzyl-*p*-toluenesulfoimid, 2043.  
Dibornyl tetrachlorophthalate, 1969.  
Di-bromacetanilid, plastic containing, 2570.  
2,4-Dibrom-1-amino-anthraquinone, cellulose acetate dyed using, 601.  
—, cellulose ether dyed using, 2279.  
2,6-Dibrom-4-amino-1-phenol, cellulose ether dyed using, 2283.  
Dibrombenzanthrone, cellulose ether dyed using, 2267.  
Dibrombenzene, 1825.  
—, cellulose ether inflammability reduced by, 182.  
—, cellulose ether solvent, 53.  
—, film made using, 2510.  
*p*-Dibrombenzene, 1826.  
—, amines solvent for, 2009.  
Dibrom-*B*-benzoylpropionic acid, cellulose acetate dyed using, 751.  
Dibromcamphor, cellulose ether inflammability reduced by, 182.  
Dibromcatechol, cellulose ether inflammability reduced by, 182.  
Dibromcinnamic acid, 1895.  
Dibromcresol, cellulose ether inflammability reduced by, 182.  
Dibromcresyl phosphate, 1895.  
Dibromcumene, cellulose ether inflammability reduced by, 182.  
Dibrocymene, cellulose ether inflammability reduced by, 182.  
*Dibromethane (sym), see Ethylene bromide*.  
Dibromethylbenzene, cellulose ether inflammability reduced by, 182.  
Dibromethyl butyrate, 1995.  
Dibromethylene, 2628.  
*Dibromgallic acid, see Gallobromol*.  
Dibromhydrochinone, cellulose ether inflammability reduced by, 182.

- 3-(5.7 Dibromindole)-2'-thionaphthenindigo, cellulose formate dyed using, 607.  
—, cellulose propionate dyed using, 607.  
5.7-Dibrom-3-indole-2'-thionaphtheneindigo, solubilizing, 2211.  
5.7-Dibromisatin  $\alpha$ -chloride, 2633, 2634.  
Dibrommalonic acid, 1949.  
Dibrom-mesitylene, cellulose ether inflammability reduced by, 182.  
*Dibrommethane*, see *Methylene bromide*.  
Dibromnaphthalene, 1826.  
Dibromnaphthyl phosphate, 1895.  
3.5-Dibrom-4-oxy-1-*ter*butylbenzene, cellulose ether plastifier, 798.  
—, plastic made containing, 2564.  
Dibromphenol, cellulose ether inflammability reduced by, 182.  
Dibromphenyl-phenyl phosphate, cellulose ether plastifier, 173.  
*Dibrompropane*, see *Propylene bromide*.  
1.3-Dibrompropane, 1290.  
Dibrompropyl alcohol, cellulose acetate solvent, 1785.  
*by*-Dibrompropyl alcohol, celluloid solvent, 890.  
—, cellulose acetate solvent, 890.  
2.3-Dibrompropyl alcohol, amines solvent for, 2009.  
Dibrompyrogallol, cellulose ether inflammability reduced by, 182.  
Dibromresorcinol, cellulose ether inflammability reduced by, 182.  
Dibromthymol, cellulose ether inflammability reduced by, 182.  
Dibromtoluene, 1825.  
—, cellulose ether inflammability reduced by, 182.  
—, cellulose ether solvent, 54.  
*Dibromtrioxybenzoic acid*, see *Gallo-bromol*.  
Dibromxylene, 1826.  
—, cellulose ether inflammability reduced by, 182.  
Di-*n*-butoxy-1.4-diaminoanthraquinone, cellulose ether dyed using, 2297.  
*Dibutyl*, see *Butyl*, *Monobutyl*, *Tributyl*.  
Dibutylamine, 2384.  
Dibutylamine, electrical discharge in fibers prevented by, 215.  
—, insulating using, 2438.  
Di-*n*-butylamine, solubility organic compounds in, 2007.  
Dibutylbenzene, lacquer containing, 2393.  
Dibutyl benzoate, acetic acid solvent, 1040.  
Dibutylbutylene glycol ether, cellulose acetate solvent, 665.  
Dibutyl carbonate, 2023.  
—, cork with as plastic, 153.  
Dibutyl di-*n*-butylmonoamidiphosphate, 1900.  
Dibutylene glycol phosphate monoalkyl ether, cellulose ester plasticizer, 300.  
—, cellulose ether plasticizer, 300.  
Dibutylene glycol phosphate monoamyl ether, cellulose ester plasticizer, 300.  
—, cellulose ether plasticizer, 300.  
Dibutylene glycol phosphate monobutyl ether, cellulose ester plasticizer, 300.  
—, cellulose ether plasticizer, 300.  
Dibutylene glycol phosphate monoethyl ether, cellulose ester plasticizer, 300.  
—, cellulose ether plasticizer, 300.  
Dibutylene glycol phosphate monomethyl ether, cellulose ester plasticizer, 300.  
—, cellulose ether plasticizer, 300.  
Dibutylene glycol phosphate monopropyl ether, cellulose ester plasticizer, 300.  
—, cellulose ether plasticizer, 300.  
Dibutyl ether, 1870.  
Diisobutyl ether, 1870.  
Dibutylethylene glycol ether, cellulose acetate solvent, 665.  
Diisobutyl fumarate, cellulose ether plastic, 144.  
Dibutyl ketone, 1878.  
—, cellulose ether solvent, 52.  
Dibutyl lactate, cellulose ether ink containing, 2474.  
Diisobutyl maleate, cellulose ether plastic, 144.  
*Dibutyl malonate*, see *Butyl malonate*.  
Dibutyl methylenetetrahydrophthalate, lacquer containing, 2424.  
Dibutyl naphthalenesulfonic acid, cellulose ether emulsifier, 237.

- Dibutyl oxalate, cellulose acetate solvent, 445.  
—, *see also Butyl oxalate*.  
*n*-Dibutyl oxalate, 1948.  
Dibutyl oxide, 1869.  
Dibutylpentaerythrite, cellulose ether solvent, 222.  
Dibutylphthalate, 139, 969, 1341, 1876, 1889, 1899, 1901, 1967, 2175, 2405, 2443.  
—, acetic acid extracted with, 836.  
—, acetic acid recovery using, 724.  
—, acetic acid solvent, 1040.  
—, benzylcellulose emulsified by, 1567.  
—, benzylcellulose emulsion containing, 1581.  
—, benzylcellulose lacquer containing, 1588.  
—, benzylcellulose plastifier, 1576.  
—, benzylcellulose solvent, 1545, 1554.  
—, cellulose acetate plastifier, 971, 1018.  
—, cellulose acetate solvent, 705, 2435.  
—, cellulose ether ink containing, 2474.  
—, cellulose ether plasticizer, 134, 146, 1371.  
—, cellulose ether softener, 203.  
—, cellulose ether solvent, 239, 2471.  
—, cellulose ether solvent with dioxane, 124.  
—, cellulose nitrate solvent, 239, 705.  
—, emulsifying, 240.  
—, emulsion containing, 2453.  
—, ethylbenzylcellulose plasticizer, 236.  
—, ethylbutylcellulose plasticizer, 236.  
—, ethylcellulose plasticizer, 236.  
—, glass, laminated, made using, 2585, 2586.  
—, lacquer, unflammable, made using, 670.  
—, leather dressing made using, 868.  
—, non-chalking composition containing, 1580.  
—, paper, decalomania, made using, 2552.  
—, physical constants, 1793.  
—, plastic containing, 1676.  
—, plasticizer, lacquer, 2400.  
—, plasticizing value, 1794.  
Dibutylphthalate, printing, intaglio, made using, 2551.  
—, properties, 728.  
—, tricresyl phosphate and as solvent, 1905.  
—, *see also Butyl phthalate*.  
Diisobutyl phthalate, 1972, 1989.  
—, flash point, 2060.  
Di-*n*-butyl phthalate, 1972.  
—, cellulose ether plasticizer, 118.  
—, flash point, 2060.  
Dibutylpropylene glycol ether, cellulose acetate solvent, 665.  
*Dibutyl succinate*, *see Butyl succinate*.  
Dibutyl sulfate, mfr., 1262.  
Dibutylsulfone, 2001, 2027.  
—, film made using, 2503.  
Diisobutyl-sulfone, 39, 2001.  
—, cellulose acetate solvent, 509.  
—, cellulose nitrate solvent, 509.  
*n*-Dibutyl-sulfone, 39, 2001.  
—, cellulose acetate solvent, 509.  
—, cellulose nitrate solvent, 509.  
Dibutyl tartrate, 1038, 1950, 1951, 1965, 1994, 2043.  
—, alkylcellulose viscosity reduced by, 1352.  
—, benzylcellulose combined with, 1364.  
—, benzylcellulose solvent, 1553.  
—, benzylcellulose viscosity reduced by, 224, 1558.  
—, cellulose acetate combined with, 953.  
—, cellulose acetate plastifier, 862, 938.  
—, cellulose acetate solvent, 851.  
—, ethylcellulose combined with, 1364.  
—, ethylcellulose viscosity reduced by, 224, 1352.  
—, lacquer made using, 541.  
—, methylcellulose combined with, 1364.  
—, methylcellulose viscosity reduced by, 224, 1352.  
—, properties, 728.  
—, *see also Butyl tartrate*.  
Dibutylin, 1925, 1965, 1968.  
—, cellulose acetate gelatinizer, 536.  
—, cellulose acetate plastifier, 569.  
4,4'-Dicarbamidodiphenyl, cellulose acetate delustred by, 962.  
Dice, cellulose acetate in form of, 707.

- Dicellobiosyl disulfide, 733.  
Dicellobiosyl disulfide tetradeca-  
acetate, 733.  
Dicellosehydroxyalkyl ether,  
1391.  
Dichloracetic acid, catalyst in cel-  
lulose acetating, 351, 353.  
Dichloracetic anhydride, 1695.  
Dichloracetin, 1844, 1961.  
Dichloracetone, 1882.  
—, cellulose acetate plasticizer,  
398.  
Dichloroacetyl chloride, mfr., 507.  
Dichloramine-T, amines solvent  
for, 2009.  
3.5-Dichlor-4-amino-4'-hydroxydi-  
phenylamine, cellulose acetate  
dyed using, 592.  
3.5-Dichlor-4-amino-4'-hydroxydi-  
phenylamine, cellulose ether dyed  
using, 2285.  
2.6-Dichlor-4-aminophenol, cellu-  
lose ether dyed with, 115.  
2.6-Dichlor-4-amino-1-phenol, cel-  
lulose ether dyed using, 2283.  
3.5-Dichlor-*o*-aminophenol, lacquer,  
colored, containing, 2425.  
2.6-Dichlor-*p*-aminophenols, cellu-  
lose acetate dyed using, 717.  
2-4-Dichloraniline, acetic anhy-  
dride analysis, 616.  
2.5-Dichloraniline, cellulose acetate  
dyed using, 809.  
—, cellulose ether dyed using, 148,  
2261, 2275, 2280.  
—, diazotized film, colored, made  
using, 2532.  
3.4-Dichloraniline, diazotized cellu-  
lose ether dyed using, 2265.  
2.6-Dichloranthraquinone, delus-  
tring with, 2185.  
3'.4'.Dichlor-1.2-anthraquinone-  
acridone, cellulose ether dye,  
2147.  
4.6-Dichloranthrarufin, cellulose  
ether dyed using, 2281, 2282.  
—, 6-chlor-1.4.5-trihydroxyanthra-  
quinone made using, 936.  
4.8-Dichloranthrarufin, cellulose  
ether dyed using, 2257.  
Dichlorbenzene, 1826.  
—, acetic acid solvent, 667.  
—, cellulose acetate plasticizer, 398.  
—, cellulose dispersed in, 280.  
—, cellulose ether delustrated by, 133.  
—, crystal effects produced with,  
2429.  
Dichlorbenzene, delustrating with,  
2186.  
—, ethylcellulose delustrated by, 133.  
*o*-Dichlorbenzene, acetic anhydride  
made using, 534.  
—, flash point, 2060.  
*p*-Dichlorbenzene, amines solvent  
for, 2009.  
—, crystal effects produced with,  
2429.  
—, flash point, 2060.  
—, lacquer containing, 645.  
2.5-Dichlorbenzene, cellulose ether  
dyed with, 180.  
2.2'-Dichlorbenzidine, 1086.  
Dichlor-*B*-benzoylpropionic acid,  
cellulose acetate dyed using, 751.  
Di-*o*-chlorbenzylcellulose, 1533,  
1535.  
Dichlorbenzylglycol, 1874.  
Dichlor-1-bromethane, cellulose  
etherified by, 1383.  
2.2-Dichlor-1-bromethane, 1396.  
Dichlorcresyl phosphate, 1895.  
2.3-Dichlor-14-diaminoanthraqui-  
none, cellulose acetate dyed us-  
ing, 925.  
3.6-Dichlor-2.5-dianilino-*p*-benzo-  
quinone, cellulose acetate dyed  
using, 751.  
Dichlor-diethyl ether, cellulose ace-  
tate solvent, 801.  
*aa'*-Dichlordiethyl ether, 1047.  
—, acetic anhydride made using,  
849.  
*BB'*-Dichlordiethyl ether, 1734,  
1876.  
—, cellulose benzoyletated using,  
1021.  
*bb'*-Dichlordiethyl ether, dioxane  
from, 1066.  
3.3'-Dichlor-*N*-dihydro 1.2.1'.2'-an-  
thraquinoneazine, dyeing with,  
2243.  
Dichlordimethyl sulfate, 1621.  
—, alkalicellulose treated with, 301.  
—, cellulose methylenated with,  
1621.  
—, etherifying with, 301.  
*s*-Dichlordimethyl sulfate, 212.  
—, mfr., 1262.  
Dichlordiphenyl phosphate, 1896.  
Dichlordiphenyl thiophosphate,  
1896.  
Dichlorethane, 1815.  
—, acetic acid extracted with, 836.

- Dichlorethane, cellulose acetate clarified by treating, 1030.  
—, cellulose acetate solubility in, 1783.  
—, cellulose acetylated in presence of, 988.  
—, chlorhydrins made using, 503.  
—, methylcellulose solubility in, 1307.  
—, *see also Ethylene chloride.*  
*a-Dichlorethane, see Ethylidene chloride.*  
*sym-Dichlorethane, see Dichloroethane.*  
Dichlorethyl acetate, 1995.  
Dichlorethyl carbonate, 1906.  
—, cellulose ether plasticizer, 117.  
*Dichlorethyl chloride, see Methyl chloroform.*  
Dichlorethylene, 170, 171, 1075, 1403, 1661, 1812, 1821, 1823.  
—, acetic acid extracted by, 629.  
—, acetic acid recovered by, 730, 987.  
—, acetic acid solvent, 928.  
—, benzylcellulose solvent, 1553.  
—, butyric acid concentrated using, 1049.  
—, cellulose acetate lacquer containing, 730.  
—, cellulose acetate solvent, 397, 471, 813, 1818, 1819, 1843.  
—, cellulose ester coagulated by, 133.  
—, cellulose esterified in presence of, 978.  
—, cellulose ether coagulated by, 133, 170, 2086.  
—, cellulose ether dyed level in presence of, 104.  
—, cellulose ether dyeing using, 2237, 2255.  
—, cellulose ether non-solvent, 1452.  
—, cellulose ether solvent, 135, 2076.  
—, cellulose pretreated with, 988.  
—, ethylcellulose solvent, 1332.  
—, fire extinguisher, 543.  
—, flash point, 2060.  
—, mfr., 550, 563, 571, 881, 1068.  
—, propionic acid concentrated using, 1049.  
—, shoe heel made using, 525.  
—, stabilizing, 1066.  
—, viscosity cellulose acetate in depressing, 924.  
Dichlorethylene, wooden heel made using, 525.  
*s-Dichlorethylene, 1403.*  
—, benzylcellulose solvent, 230.  
—, cellulose ether solvent, 230.  
—, ethylcellulose solvent, 230.  
Dichlorethyl ether, 1849.  
—, cellulose purified by, 1412.  
*bb'Dichlorethyl ether, 1869.*  
—, benzylcellulose treated with, 1563.  
Dichlorethyl monochloracetate, 1995.  
*Dichlorethyl oxide, see Dichloroether.*  
Dichlorogallein, amines solvent for, 2009.  
Dichlorhydrin, 463, 1091, 1381, 1697, 1768, 1839, 1841, 1842, 1928, 1961, 2027.  
—, amines solvent for, 2009.  
—, cellulose acetate containing, 477.  
—, cellulose acetate plastic made using, 526.  
—, cellulose acetate plastifier, 385, 559.  
—, cellulose acetate solvent, 471, 691, 1039, 1843.  
—, cellulose ether solvent, 1841.  
—, cotton treated with, 404.  
—, ethylcellulose solvent, 17, 18, 19, 20.  
—, plastic made containing, 2566.  
—, shoe heel made using, 525.  
—, starch ether solvent, 1483, 1484.  
—, triphenyl phosphate and as solvent, 1901.  
—, window curtain mfr. using, 820.  
—, wooden heel made using, 525.  
*a-Dichlorhydrin, 1590, 1769.*  
—, cellulose etherified by, 1401.  
—, ethylcellulose xanthanilid solvent, 1644.  
*b-Dichlorhydrin, 1590.*  
Dichlorhydrin phosphate, 1970.  
*3'-5'-Dichlor-4'-hydroxydiphenylamine, cellulose acetate dyed using, 723.*  
*1.3-Dichlor-2-hydroxypropane, see Dichlorhydrin.*  
Dichloride of maleic acid hydrazide, 1743, 1744.  
Dichlormaleic acid hydrazide bromide, cellulose derivative made using, 250.  
—, cellulose ether made using, 250.

- Dichlormaleic acid hydrazide chloride, cellulose derivative made using, 250.  
 —, cellulose ether made using, 250.  
 Dichlormethane, 1674, 1811, 1812.  
 —, cellulose dilaurate dissolved by, 201.  
 —, cellulose monoaceto-distearate dissolved by, 201.  
 —, guttapercha dissolved by, 201.  
 —, rubber dissolved by, 201.  
 —, *see also* *Methylene bi-chloride*; *Methylene chloride*.  
 Dichlormethylene, 1654.  
 Dichlormethyl ether, cellulose methylenated with, 1621.  
 —, mfr., 1262.  
 Dichlormethyl sulfate, 1621.  
 Dichlornaphthalene, 1826, 1828.  
 —, inflammability reduced by, 1055.  
 Dichlornaphthyl phosphate, 1895.  
 2,6-Dichlor-4-nitraniline, cellulose acetate dyed using, 693.  
 —, cellulose ether dyed using, 2250.  
 Dichlornitrobenzene, 2003.  
 —, cellulose acetate plasticizer, 398.  
 2,5-Dichlornitrobenzene, cellulose ester dyed using, 220.  
 —, cellulose ether dyed using, 220, 2286, 2294.  
 1,4-Dichlor-2-nitrobenzene, cellulose ether dyed using, 2254.  
 Dichloroxymethane, 1759.  
 Dichlor paraffins, glycols made using, 488.  
 Dichlorphenetol, cellulose acetate plasticizer, 398.  
 3,4-Dichlorphenol, cellulose acetate dyed using, 751.  
 Dichlorphenyl phosphate, 1895.  
 —, *see also* *Dimethylmonophosphate*.  
 Dichlorphthalazine, 1743.  
 —, cellulose ether from alkal cellulose and, 298.  
 Dichlorphthalazine bromide, cellulose derivative made using, 250.  
 —, cellulose ether made using, 250.  
 Dichlorphthalazine chloride, cellulose derivative made using, 250.  
 —, cellulose ether made using, 250.  
 Dichlorpropane, 1820, 1824.  
 —, ethylcellulose solvent, 95.  
 —, *see also* *Propylene chloride*.  
 2,3-Dichlorpropane, 1821.  
 1,2-Dichlorpropanol-3, cellulose ether solvent, 1841.  
 1,3-Dichlorpropanol-2, cellulose ether solvent, 1841.  
 —, *see also* *a-Chlorhydrin*.  
 Dichlorpropyl alcohol, *see* *Dichlorhydrin*.  
 Dichlor-iso-propyl alcohol, *see* *Dichlorhydrin*.  
 Dichlorpropyl carbonate, cellulose ether plasticizer, 117.  
 Dichlorpropylene, trichlorhydrin made using, 572.  
 —, trichlorpropane made using, 572.  
 Dichlorquinazoline, 1743, 1744.  
 —, alkal cellulose compound with, 1009.  
 —, cellulose ether from alkal cellulose and, 298.  
 Dichlorquinazoline bromide, cellulose derivative made using, 250.  
 —, cellulose ether made using, 250.  
 Dichlorquinazoline chloride, cellulose derivative made using, 250.  
 —, cellulose ether made using, 250.  
 Dichlorthiomethane, 1759.  
 Dichlortoluene, 1826, 1827.  
 —, cellulose acetate plasticizer, 398.  
 Dichlorvaleraldehyde, 1821.  
 Dichlorxylene, delustring with, 2186.  
 Dicrosyethyl phosphate, benzylcellulose plastifier, 1575.  
 Dicrosyglyceryl ether, 1870, 1894, 1898.  
 —, benzylcellulose plastifier, 126.  
 —, ethylcellulose plastifier, 126.  
 Dicrosylin, 1863, 2032.  
 —, benzylcellulose solvent, 1554.  
 Dicrosymethyl phosphate, benzylcellulose plastifier, 1575.  
 Dicrosyl phosphoric anilid, 1896.  
 Dicumene, film made using, 2510.  
 Dicyanamide, 1748.  
 Dicyandiamine, 146.  
 —, cellulose ether plasticizer, 1371.  
 Dicyanimide, 1645.  
 —, cellulose dixanthate combined with, 148.  
 —, cellulose xanthate combined with, 148.  
 —, starch xanthate combined with, 148.  
 Dicyanodiamide, 146, 1645, 1748, 1827, 2030.



- Dicyanodiamide, cellulose acetate dyed using, 925.  
 —, cellulose dixanthate combined with, 148.  
 —, cellulose ether dyed using, 2280.  
 —, cellulose xanthate combined with, 148.  
 —, starch xanthate combined with, 148.  
 Dicyanodiamidine nitrate, 2031.  
 Dicyclohexanyl adipate, 1992.  
 Dicyclohexyl, mfr. of, 79.  
 Dicyclohexyl acetoacetate, 1993.  
 Dicyclohexylamine, cellulose ether lacquer containing, 155.  
 —, lacquer containing, 2418.  
 Dicyclohexyl fumarate, 1950.  
 Dicyclohexyl levulinate, 1993.  
 Dicyclohexyl maleate, 1950.  
 Dicyclohexyl oxalate, 1991.  
 —, cellulose acetate solvent, 711.  
 —, cellulose nitrate solvent, 711.  
 Dicyclohexyl phthalate, 1976, 1989.  
 —, lacquer containing, 2397.  
 Dicyclohexyl succinate, 1991.  
 —, cellulose acetate solvent, 711.  
 —, cellulose solvent, 711.  
 Dicyclohexylsulfonamide, cellulose acetate plastifier, 408.  
 Dicyclohexyltoluenesulfonamide, 2042.  
 Dicycmenes, film made using, 2510.  
 2,5-Di(*p*-dimethylaminophenylamino)-benzoquinone, cellulose ester dyed with, 180.  
 —, cellulose ether dyed with, 180, 2286.  
*Didymia*, see *Didymium oxide*.  
 Dielectric, cellulose acetate for, 461.  
 —, mfr. of, cellulose acetate in, 415.  
*Dieline*, see *Dichlorethylene*.  
 Die plate, cellulose acetate in mfr., 404.  
 Dies, printing, 479.  
 —, stamping, cellulose acetate in mfr., 479.  
 Diethanolamine, 2384.  
 —, cellulose acetate delustred by, 937.  
 —, cellulose ether lacquer containing, 155.  
 —, delustring by, 305.  
 —, electrical discharge in fibers prevented by, 215.  
 —, lacquer containing, 2418.  
 1,4-Diethanolamino-anthraquinone, 2319.  
 1,4-Diethanolamino-5,8-dioxy-anthraquinone, 2319.  
*Diethideneammonium thiocarbamate*, see *Carbothialdine*.  
 2,3-Diethoxy-anthraquinone, cellulose ether dyed using, 2297.  
 Diethoxy-benzene, camphor substitute, 2051.  
 1,2-Diethoxy-benzene, camphor substitute, 2051.  
*aa-Diethoxyethane*, see *Acetal*.  
*Diethyl*, see *Ethyl*; *Monoethyl*; *Triethyl*.  
 Diethyl acetal, 1873.  
 —, cellulose ether solvent, 283.  
 —, mfr. of, 662.  
 —, see also *Acetal*.  
 Diethylacetanilid, 2017.  
 Diethylacetoacetate, 1932.  
 Diethylacetonitrile, celluloid solvent, 890.  
 —, cellulose acetate solvent, 890, 1785.  
 Diethyl adipate, cellulose ether solvent, 47.  
*Diethyl aldehyde*, see *Acetal*.  
 Diethylamine, 123, 1641, 1642, 1747, 1749, 1754, 1755, 1756, 1765, 1768.  
 —, catalyst in cellulose acetating, 384.  
 —, celluloid solvent, 890.  
 —, cellulose acetate solvent, 890, 891, 1785.  
 —, cellulose etherified using, 273.  
 —, cellulose nitrate solvent, 891.  
 —, cellulose treated with, 278.  
 —, cotton immunized by, 907.  
 —, linen immunized by, 907.  
 —, rayon immunized by, 907.  
 —, solubility organic compounds in, 2007.  
 Diethylamine sulfate, catalyst in cellulose acetate mfr., 413.  
*p*-Diethylaminobenzaldehyde, cellulose acetate dyed using, 675.  
 —, mildewproofing using, 2202.  
 Diethylaminocellulose acetate, mfr., 250.  
 Diethylaminochlorphosphine, cellulose acetate treated with, 997.  
 Diethylaminoethylcellulose, 1664, 1665.  
 —, mfr. of, 210, 231, 250, 1613.  
 Diethylaminoethylcellulose acetate, 1664.

- Diethylaminoethylcellulose acetate, mfr. of, 1613.  
 Diethylaminoethylcellulose formate, 1665.  
 Diethylaminomethylcellulose, mfr. of, 231, 1613.  
 Diethylamino-oxybenzoylbenzoic acid, cellulose ether dyed using, 2297.  
 Diethyl-*m*-aminophenolphthalein hydrochloride, cellulose ether dye, 2147.  
 Diethylaminophosphine chloride, cellulose ether viscosity reduced by, 1363.  
 Diethylaminopropylcellulose, mfr. of, 231.  
 Diethylamyl phosphate, 1899.  
 Diethylisoamyl phosphate, 1897.  
 Diethylaniline, 1094, 1340, 1656.  
 —, acetic acid solvent, 668.  
 —, butylcellulose mfr. in presence of, 185.  
 —, cellulose acetate dyed using, 606, 610, 717.  
 —, cellulose ether dyed using, 2282.  
 —, ethyl bromide in mfr., 1275.  
 Diethylaniline-alcohol, ethylcellulose xanthanilide solvent, 1644.  
 Diethylaniline chloride, cellulose ether dyed using, 2270.  
 —, fastness of dyes improved by, 780.  
 Diethylaniline-sulfochloride, 2629.  
 Diethylanilinesulfonic acid, cellulose ether dyed using, 2275.  
 Diethylaniline-*m*-sulfonic acid, 67.  
 —, cellulose ether dyed with, 67, 2260, 2276.  
 —, cellulose ether dyed with diazotized, 112.  
 —, diazotizing with, 113.  
 Diethylbarbituric acid, 2029.  
 Diethylbenzamid, ethyl chloride made using, 1267.  
 Diethylbenzene, 1810.  
 —, film made using, 2510.  
 —, lacquer containing, 2393, 2418.  
 Diethyl benzoate, acetic acid solvent, 1040.  
 Diethylbenzylcellulose, 2444.  
 —, mfr., 190.  
 Diethyl-*half*-benzylcellulose, mfr., 1624.  
 Diethylbromacetylurea, 2031.  
 Diethylbutylbenzene, cellulose ester plasticizer, 303.  
 Diethylbutylbenzene, cellulose ether plasticizer, 303.  
 Diethylbutylene glycol ether, cellulose acetate solvent, 665.  
 Diethylcarbanilid, 2024.  
 —, cellulose ether solvent, 54.  
 Diethylcarbinol, celluloid solvent, 890.  
 —, cellulose acetate solvent, 890, 1785.  
 Diethyl carbonate, 1906, 1907.  
 —, flash point, 2060.  
 —, mfr. of, 1068.  
 Diethylcarbonic ether, *see* Ethyl carbonate.  
 Diethylcellulose, 69, 1305, 1369, 1651, 1661, 1672.  
 —, alkyl content, 1304.  
 —, depolymerization, 1332.  
 —, esterifying, 288.  
 —, insulator containing, mfr., 2443.  
 —, mfr. of, 116, 288.  
 —, nitrated, 1671.  
 —, *see also* Ethylcellulose.  
 Diethylcellulose acetate, 1649.  
 —, mfr. of, 69.  
 Diethylcellulose acetate, 1672.  
 Diethylcellulose formate, 1649.  
 —, mfr. of, 69, 257, 1651.  
 Diethylcellulose monoacetate, 1649.  
 Diethylcellulose nitrate, 1672.  
 —, mfr. of, 269.  
 Diethylcellulose propionate, mfr. of, 69.  
 Diethylcellulose xanthamide, mfr., 1767.  
 Diethylcellulose xanthanilid, mfr., 1767.  
 Diethylchlorphenyl phosphate, 1898.  
 Diethylmonochlorphenyl phosphate, benzylcellulose plasticizer, 167.  
 —, ethylcellulose plasticizer, 167.  
 Diethylcresyl phosphate, 1896.  
 Diethylmonocresyl phosphate, benzylcellulose plastifier, 126.  
 —, ethylcellulose plastifier, 126.  
 Diethylcyclobutanone, 1984.  
 —, cellulose acetate plastifier, 522.  
 Diethyl di-*n*-butylmonoamidophosphate, 1900.  
 Diethyl-diethyleneglycol, cellulose ether solvent, 172.  
 Diethyl-dimethyl saccharate, mfr. of, 79.  
 Diethyl-1,4-dioxane, cellulose ether solvent, 2424.

- Diethyldiphenyl urea, 2030, 2031, 2629.  
—, benzylcellulose loaded with, 1590.  
—, cellulose acetate plastic containing, 678.  
—, cellulose acetate plastifier, 798.  
—, cellulose ether solvent, 141.  
—, cellulose ether swelling agent, 2221.  
—, ethylcellulose loaded with, 1590.  
—, flash point, 2060.  
—, record, phonograph, mfr. using, 515, 536.  
*as*-Diethyldiphenylurea, 2030.  
*s*-Diethyldiphenylurea, 2030.  
*Diethyldisulfide*, *see Ethyl bisulfide*.  
Diethylenediamine, alkalicellulose compound with, 305.  
—, *see also Piperazine*.  
*as*-Diethylenediamine, cellulose derivative made using, 250.  
—, cellulose ether made using, 250.  
Diethylenedioxide, cellulose solvent, 244.  
—, *see also 1,4-Dioxane*.  
*Diethylene ether*, *see 1,4-Dioxane*.  
Diethyleneglycol, 1078, 1084, 1838, 1847, 1848, 1849, 1856.  
—, cellulose acetate lubricant, 1023.  
—, cellulose acetate softener, 956.  
—, cellulose acetate solvent, 944, 1029.  
—, cellulose etherified by, 1383.  
—, cellulose ether plasticizer, 140.  
—, cellulose ether softener, 2121, 2218, 2354.  
—, cellulose ether solvent, 178, 224, 2103, 2231.  
—, cellulose ether wetted out by, 172.  
—, dyeing cellulose ether in presence of, 178.  
—, ethyl ether of, 1854.  
—, filaments softened by, 1069.  
—, ink containing, 2475.  
—, lacquer containing, 2393.  
—, plastic containing, 2565.  
—, properties, 707.  
—, shoe stiffened using, 2472.  
Diethyleneglycol acetate, 1855.  
Diethyleneglycol amyl ether, cellulose ether softener, 203.  
Diethyleneglycol benzoate, 1855.  
—, plastic made containing, 2565.  
Diethyleneglycol butyl ether, 1849.  
Diethyleneglycol butyl ether, cellulose ether softener, 203.  
Diethyleneglycol *monobutyl* ether, wetting out agent, 1236.  
Diethyleneglycol butyl ether acetal, 1854.  
Diethyleneglycol caprate, 1939.  
Diethyleneglycol caproate, 1939.  
Diethyleneglycol dibenzoate, cellulose acetate solvent, 891.  
—, plastic made containing, 2565.  
—, plasticizer, lacquer, 2400.  
Diethyleneglycol diether, cellulose ether dyeing using, 2237.  
Diethyleneglycol diethyl ether, cellulose ether solvent, 2231.  
Diethyleneglycol distearate, 1940.  
Diethyleneglycol ether acetal, 1589.  
Diethyleneglycol ethyl ether, 1849.  
—, acetal of, benzylcellulose softener, 2412.  
—, —, ethylcellulose softener, 2412.  
—, cellulose ether softener, 203.  
—, mfr. of, 895.  
—, wetting out agent, 1236.  
Diethyleneglycol ethyl ether acetal, 1854, 1875.  
Diethyleneglycol hexastearate, 1940.  
Diethyleneglycollate, mfr., 895.  
Diethyleneglycol laurate, 1939.  
Diethyleneglycol linoleate, 1939.  
Diethyleneglycol methyl ether, cellulose ether softener, 203.  
Diethyleneglycol monoacetate, 1849.  
Diethyleneglycol monoamyl phosphate, 1854.  
Diethyleneglycol monobutyl ether, 1078.  
—, glass, laminated, made using, 2636.  
—, transfer, gold, made using, 2550.  
Diethyleneglycol mono-*n*-butyl ether, 1855.  
Diethyleneglycol monobutyl phosphate, 1854, 1898.  
Diethyleneglycol monoethyl ether, 1078, 1569, 1854, 1855.  
—, benzylcellulose solvent, 293.  
—, cellulose acetate plastifier, 940.  
—, cellulose acetate softener, 859.  
—, cellulose ether solvent, 178, 2231.  
—, dyeing cellulose ether in presence of, 178.  
—, ethylcellulose solvent, 293.

- Diethyleneglycol monoethyl ether, properties, 1848.  
—, transfer, gold, made using, 2550.  
—, —, multicolor, made using, 2549.  
Diethyleneglycol monoethyl ether acetate, 1855.  
Diethyleneglycol monoethyl ether benzoate, 1855.  
Diethyleneglycol monoethyl phosphate, 1854, 1898.  
Diethyleneglycol monoethyl ether acetal, 1875.  
Diethyleneglycol monomethyl ether stearate, 1940.  
Diethyleneglycol monomethyl phosphate, 1854, 1898.  
Diethyleneglycol monopropyl phosphate, 1854, 1898.  
Diethyleneglycol monostearate, 1940.  
Diethyleneglycol oleate, 1939.  
Diethyleneglycol palmitate, 1939.  
Diethyleneglycol phosphate monoalkyl ether, cellulose ester plasticizer, 300.  
—, cellulose ether plasticizer, 300.  
Diethyleneglycol phosphate monoamyl ether, cellulose ester plasticizer, 300.  
—, cellulose ether plasticizer, 300.  
Diethyleneglycol phosphate monobutyl ether, cellulose ester plasticizer, 300.  
—, cellulose ether plasticizer, 300.  
Diethyleneglycol phosphate monoethyl ether, cellulose ester plasticizer, 300.  
—, cellulose ether plasticizer, 300.  
Diethyleneglycol phosphate monomethyl ether, cellulose ester plasticizer, 300.  
—, cellulose ether plasticizer, 300.  
Diethyleneglycol phosphate monopropyl ether, cellulose ester plasticizer, 300.  
—, cellulose ether plasticizer, 300.  
Diethyleneglycol propyl ether, cellulose ether softener, 203.  
Diethyleneglycol ricinoleate, 1939.  
Diethyleneglycol stearate, 1939.  
Diethyleneglycol tetrastearate, 1940.  
Diethyleneglycol tristearate, 1940.  
Diethylene oxide, 1845, 1846, 1849.  
—, *see also* 1.4 Dioxane.  
Diethyl ether, 1693, 1870.  
Diethyl ether, cellulose acetate plastifier, 452.  
—, *b*-ethoxypropionic acid from, 185.  
—, flash point, 2060.  
—, mfr. of, 275.  
—, *see also* Ether.  
Diethylethylenediamine, 1603, 1641, 1747, 1765, 1766, 2628.  
Diethylethylene glycol, cellulose acetate solvent, 617.  
—, cellulose ether solvent, 172.  
Diethylethylene glycol ether, cellulose acetate solvent, 665.  
Diethyl fumarate, 1950.  
—, cellulose ether plastic, 144.  
Diethylglucosan ether, 2.  
Diethylglucose, 73, 1370.  
Diethylglycerol, cellulose ether solvent, 172.  
Diethylglyceryl ether, 1858.  
Diethylglycolbutylglycol phosphate, cellulose acetate plastifier, 880.  
Diethylglycolbutyl phosphate, 1897.  
Diethylglycol phthalate, flash point, 2060.  
*Diethylidene dithiocarbamate, see Carbothialdine.*  
Diethylidenephenol thiosulfonate, cellulose acetate plastifier, 533.  
Diethyl itaconate, cellulose acetate plasticizer, 844.  
—, cellulose acetate softener, 663.  
—, glass, laminated, made using, 663.  
Diethyl ketone, 1084, 1878, 1883.  
—, cellulose acetate solvent, 813.  
—, cellulose ether solvent, 52.  
Diethyl malate, 1949.  
—, mfr. of, 895.  
Diethyl maleate, 1950.  
—, cellulose ether plastic, 144.  
Diethyl malonate, 1746, 1948.  
—, cellulose combined with, 228.  
—, *see also* Ethyl malonate.  
Diethylmalonylurea, 2029.  
Diethylmercapto group, 1504.  
Diethylmercaptomannose, 1504.  
Diethylmetanilic acid, wetting out agent, 1375.  
Diethyl-*b*-methyladipate, cellulose ether solvent, 47.  
Diethyl monosilicate, 1909.  
N.N-Diethylmydriatin, ethyl bromide in mfr., 1275.  
Diethylnaphthyl phosphate, 1896.

*Diethylnitrosamine*, see *Nitrosodiethylene*.

Diethyl oxalate, 1906.

—, cellulose combined with, 228.

—, see also *Ethyl oxalate*.

*Diethyl oxide*, see *Ether*.

Diethylpentaerythritol, cellulose ether solvent, 222.

Diethylpentaerythritol, cellulose ester plasticizer, 305.

—, cellulose ether plasticizer, 305.

—, plasticizer, 305.

Diethylpentybenzene, cellulose ester plasticizer, 303.

—, cellulose ether plasticizer, 303.

Diethylphenyl phosphate, 1896, 1898.

—, plasticizer, 1100.

Diethylmonophenylphosphate, benzylcellulose plasticizer, 126, 167.

—, ethylcellulose plasticizer, 126, 167.

Diethylphenyltolylurea, 2030.

Diethylphthalate, 244, 1577, 1735, 1872, 1899, 1907, 1951, 1971, 1989, 1994, 2024, 2205.

—, acetic acid extracted with, 836.

—, acetic acid solvent, 1040.

—, alkylcellulose viscosity reduced by, 1352.

—, benzylcellulose combined with, 1364.

—, benzylcellulose plastified by, 102, 1578, 2597.

—, benzylcellulose solvent, 248.

—, benzylcellulose viscosity reduced by, 224, 1558.

—, cellulose acetate plastifier, 376, 971, 1024, 1027.

—, cellulose acetate solvent, 587.

—, cellulose ether plastifier, 146, 1371.

—, cellulose ether solvent, 173, 213.

—, ethylcellulose combined with, 1364.

—, ethylcellulose plastified by, 102, 2597.

—, ethylcellulose solvent, 134, 2356.

—, ethylcellulose viscosity reduced by, 224, 1352.

—, filament, hollow, made using, 213, 2365.

—, flash point, 2060.

—, ink containing, 627.

—, ink, marking, containing, 2330.

—, lacquer containing, 1572, 2397, 2400.

Diethylphthalate, methylcellulose combined with, 1364.

—, methylcellulose plastified by, 102, 2597.

—, methylcellulose solvent, 134, 2356.

—, methylcellulose viscosity reduced by, 224, 1352.

—, physical constants, 1793.

—, plastic of cellulose acetate and, 1030.

—, printing ink containing, 2329.

—, properties, 654, 728.

—, shellac solvent, 627.

—, stencil sheet containing, 686, 2497.

—, tricresyl phosphate and as solvent, 1905.

—, see also *Ethyl tartrate*.

Diethyl iso-phthalate, airplane coated with, 2484.

—, cellulose acetate plastifier, 483, 579.

Diethyl phthalimide, lustre preserving by, 2171.

Diethylpropylbenzene, cellulose ester plasticizer, 303.

—, cellulose ether plasticizer, 303.

Diethylpropylene glycol, cellulose ester solvent, 57.

—, cellulose ether solvent, 57.

Diethylpropylene glycol ether, cellulose acetate solvent, 665.

Diethylresorcinol dicarboxylate, benzylcellulose solvent, 41.

—, ethylcellulose solvent, 41.

—, propylcellulose solvent, 41.

Diethyl sebacate, 1939.

Diethyl succinate, 1746, 1949.

—, cellulose combined with, 228.

—, see also *Ethyl succinate*.

Diethyl sulfate, 1766.

*o*-Diethylsulfonamide, cellulose acetate plastifier, 521.

*p*-Diethylsulfonamide, cellulose acetate plastifier, 521.

Diethylsulfone, 39, 2001.

—, cellulose acetate solvent, 509.

—, cellulose nitrate solvent, 509.

Diethylsulfone dimethylmethane, 2024.

—, see also *Sulfonal*.

Diethylsulfonemethylethylmethane, 2024.

—, see also *Trional*.

Diethyl tartrate, 266, 1646, 1950.

—, benzylcellulose solvent, 1553.

- Diethyl tartrate, cellulose acetate plasticizer, 479.  
—, cellulose acetate solvent, 851.  
—, cellulose ether made using, 2460.  
—, cellulose ether softener, 2135.  
—, cellulose ether solvent, 2077.  
—, delustring with, 288.  
—, delustring prevented by, 197.  
—, filter made using, 2461.  
—, lustre preserving by, 2171.  
—, mfr. of, 895.  
—, properties, 570.  
—, relustring with, 216.  
—, *see also Ethyl tartrate*.  
1.4-Di(ethylthiol)anthraquinone, cellulose ester dyed with, 195.  
—, cellulose ether dyed with, 195.  
Diethylthiosinamine, sensitizer, 282, 1594.  
—, sensitizer solvent, 241.  
Diethyl-*p*-toluidine, cellulose dispersed in, 280.  
Diethyl-*o*-tolyl urea, delustring with, 2184.  
Diethylurea, 2028, 2030, 2038, 2040.  
—, cellulose acetate plastifier, 634.  
—, cellulose acetate solvent, 453.  
—, cellulose ether solvent, 186.  
—, lacquer containing, 2395.  
—, plastic made using, 2560.  
Diethyl zinc, cellulose ether combined with, 272.  
Difluorobenzene, 1826.  
Difluorocresyl phosphate, 1895.  
Difluornaphthalene, 1826.  
Difluornaphthyl phosphate, 1895.  
Difluorphenyl phosphate, 1895.  
Diformin, mfr., 362.  
—, *see also Glycerol diformate*.  
Difructose anhydride, 1157.  
Difructose anhydride acetate, 1157.  
Diglucose, 2.  
*Diglucose octacetate*, *see Octacetyl-diglucose*.  
*Diglycerol*, *see Glycerol*; *Monoglycerol*; *Triglycerol*.  
Diglycerol tetracetate, 1965.  
*aa'*-Diglycerol tetracetate, 1924.  
*aa'*-Diglycerol triacetate, 1924.  
*Diglycol*, *see Glycol*; *Monoglycol*; *Triglycol*.  
Diglycollic acid, 2427.  
—, glycerol condensed with, 234.  
—, pentaerythritol condensed with, 234.  
—, sorbitol condensed with, 234.  
Diglycolphthalate, 1075.  
5.8-Dihalo-1.2-benzanthraquinone, cellulose acetate dyed using, 2247.  
4.8-Dihalogenanthrarufin, cellulose acetate dyed using, 493.  
—, cellulose ether dyed using, 2257, 2282.  
Dihalogenhydrin, 1590.  
Diheptyl sulfone, 39, 2001.  
—, cellulose acetate solvent, 509.  
—, cellulose nitrate solvent, 509.  
Dihexyl benzoate, acetic acid solvent, 1040.  
Dihexyl fumarate, 1950.  
Dihexyl maleate, 1950.  
Dihexyl naphthenate, acetic acid extracted using, 1016.  
Dihexyl phthalate, acetic acid solvent, 1040.  
N-Dihydro-1.2.1'.2'-anthraquinone-azine, 2315.  
Dihydro-*m*-dioxin, 1877.  
Dihydrodioxol, 1982, 2629.  
—, cellulose ether solvent, 2409.  
Dihydrosphingosine, methylated, 1502.  
Dihydroxyacetone, mfr., 1068.  
*Dihydroxyanthraquinone*, *see Alizarine*.  
1.4-Dihydroxyanthraquinone, aminoanthraquinone, hydroxy-alkylated, made using, 676.  
—, cellulose acetate dyed using, 712.  
—, cellulose ether dyed using, 2246, 2281.  
1.5-Dihydroxyanthraquinone, cellulose acetate dyed using, 712.  
—, cellulose ether dyed using, 2281.  
1.6-Dihydroxyanthraquinone, cellulose acetate dyed using, 712.  
—, cellulose ether dyed using, 2281.  
Dihydroxyanthraquinone diglucoside, mfr., 814.  
*Dihydroxy-azobenzene*, *see Azophenol*.  
Dihydroxybehenic acid, pentaerythrite condensate of, 303.  
Dihydroxybenzene, cellulose acetate plasticizer, 375.  
*Dihydroxybenzene (m)*, *see Resorcinol*.  
*o*-Dihydroxybenzene, *see Catechol*.  
*p*-Dihydroxybenzene, cellulose ester dyeing using, 2237.  
—, discharge printing using, 961.

- Dihydroxybenzophenone, 1080, 1890.  
 —, cellulose acetate plastifier, 955.  
 2.4-Dihydroxybenzophenone, resin, artificial, made using, 1080.  
 1.6-Dihydroxy-4-chlor-anthraquinone, cellulose acetate dyed using, 712.  
 —, cellulose ether dyed using, 2281.  
*p*-Dihydroxy-compounds, 2318.  
 1.5-Dihydroxy-4.8-diaminoanthraquinone-*N*-methyl sulfonic acid, cellulose ether dyed by, 112.  
 —, ethylcellulose dyed by, 112.  
*sym*-Dihydroxydiethyl ether, 1847.  
 1.2-Dihydroxy-5.8-di (*p*-hydroxyphenylamino) anthraquinone, cellulose ether dyed using, 2263.  
 6.6'-Dihydroxy-2.2'-dinaphthyl disulfide, 2635.  
*pp*'-Dihydroxydiphenylamine, cellulose acetate dyed using, 592.  
 —, cellulose ether dyed using, 2285.  
 4.4'-Dihydroxydiphenylamine, cellulose acetate dyed using, 723.  
 1.4-Di- (*b*-hydroxyethylamino)-anthraquinone, cellulose acetate dyed using, 676.  
 —, cellulose ether dyed using, 2246.  
*sym*-1.4-Dihydroxyethylamino-anthraquinone, 1088.  
 Di (hydroxyethyl) amino-group, cellulose acetate dyed using, 675.  
 Di (*b*-hydroxyethyl) aniline, cellulose acetate dyed using, 675.  
*bb*'-Dihydroxyethylether caprate, 1939.  
*bb*'-Dihydroxyethylether caproate, 1939.  
*bb*'-Dihydroxyethylether laurate, 1939.  
*bb*'-Dihydroxyethylether linoleate, 1939.  
*bb*'-Dihydroxyethylether oleate, 1939.  
*bb*'-Dihydroxyethylether palmitate, 1939.  
*bb*'-Dihydroxyethylether ricinoleate, 1939.  
*bb*'-Dihydroxyethylether stearate, 1939.  
 Di (*b*-hydroxyethyl) *m*-toluidine, cellulose acetate dyed using, 675.  
 Dihydroxymercaptoanthraquinone, cellulose ether dyed using, 2296.  
 Dihydroxymethoxybutyric acid, 1497.  
 2.3-Dihydroxynaphthoate, cellulose ether dyed using, 217.  
 1.1-Di (*p*-hydroxyphenyl) cyclohexane, plasticizer, 1066.  
*bb*-Di (*p*-hydroxyphenyl) propane, plasticizer, 1066.  
 3.6-Dihydroxy-3-phenylxanthonium chloride, film, colored, made using, 2531.  
 3.6-Dihydroxy-9-phenylxanthonium ether, cellulose ether dyeing using, 283.  
 3.6-Dihydroxy-9-phenylxanthonium ether, cellulose ether dyeing using, 283.  
*ab*-Dihydroxypropionic acid, 1954.  
 Dihydroxypropylaniline, benzylcellulose dyed using, 1586.  
 —, cellulose acetate dyed using, 776.  
 —, cellulose ether dyed using, 2287.  
 Dihydroxypropyl cellulose, filament from, 205, 1338, 1395.  
 —, film from, 205.  
 1.2-Dihydroxypropylcellulose, 1338, 1339.  
 —, uses of, 169.  
 Dihydroxypropylcellulose acetate, 1660.  
 By-Dihydroxypropyl mercaptan, 142.  
 1-By-Dihydroxypropylthiolanthra-pyridone, cellulose ether dyed with, 142, 2267.  
 1-By-Dihydroxypropylthiolanthraquinone, cellulose ether dyed with, 142, 2267.  
 1.3-Dihydroxyquinoline, cellulose acetate dyed using, 502.  
 —, cellulose ether dyed using, 2294.  
 —, halogenated, cellulose acetate dyed using, 502.  
 2.3-Dihydroxyquinoxaline, amines solvent for, 2010.  
 Dihydroxystearic acid, pentaerythrite condensate of, 303.  
 2.5-Dihydroxytoluene, cellulose acetate textile printed using, 961.  
 —, cellulose ether dyeing assistant, 2222.  
*m*-Di-iodoaniline, *see* Iododianiline.  
 Di-iodocresyl phosphate, 1895.  
 Di-iodoethane, *see* Ethylene iodide.  
 Di-iodo-ethylene, 2628.  
 Di-iodo-naphthyl phosphate, 1895.  
 Di-iodo-phenyl phosphate, 1895.  
 2.5-Diketohexane, 1882.

- a*-Diketohydrindene, cellulose ether dyed using, 2262.
- 1.3-Diketohydrindene, cellulose ether dyed using, 156.
- Dill oil, 2044, 2048.
- Diluents*, see *Alcohol*; *Benzene*; *Nitrobenzene*; *Water*.
- Di-mesitylene, film made using, 2510.
- 2.5-Dimethoxyl-1-aminobenzene, 1009.
- , cellulose ether dyed using, 2274.
- 2.5-Dimethoxyanilid, 1086.
- 2.5-Dimethoxyaniline, cellulose acetate dyed using, 675.
- , cellulose ether dyed using, 2294.
- 2.6-Dimethoxyaniline, cellulose acetate dyed using, 675.
- 1.4-Dimethoxyanthraquinone, cellulose ester dyed with, 195, 243.
- , cellulose ether dyed with, 195, 243, 2262.
- 2.3-Dimethoxy-anthraquinone, cellulose ether dyed using, 2297.
- 1.4-Dimethoxy-anthraquinone-1.4-diethioldimethyl ether, cellulose ester dyed using, 243.
- , cellulose ether dyed using, 243.
- Dimethoxy-benzene, camphor substitute, 2051.
- Di-*p*-methoxybenzoyldiaminoanthrarufin, cellulose ether dyed using, 2228.
- 3.6-Dimethoxy-9-*o*-carbmethoxyphenylxanthoxonium chloride, cellulose ether dyeing using, 283.
- , film, colored, made using, 2531.
- 4.4'-Dimethoxy-2.6-di-*a*-anthraquinonylanthraquinonesulfonic acid, cellulose acetate dyed with, 637.
- Dimethoxydibenzanthrone, cellulose ether dye, 2147.
- leuco*-Dimethoxydibenzanthranone, cellulose acetate dyed using, 638.
- Dimethoxydiphenylethane, 1810.
- Dimethoxydiphenylmethane, cellulose acetate plastifier, 534.
- Dimethoxyhydroxyglutaric acid, 1505.
- Dimethoxymethane, solvent, 1801.
- Dimethoxy-*l*-succinic acid, 1497.
- Dimethyl*, see *Methyl*; *Mono-methyl*; *Trimethyl*.
- Dimethylacetal, 1874, 1877.
- , cellulose ether solvent, 283.
- Dimethyl acetate, 1883.
- , cellulose acetate solvent, 446.
- Dimethyl acetate, wood oil containing, 296.
- Dimethylacetic acid*, see *iso-Butyric acid*.
- Dimethylacetylcellulose*, see *Dimethylcellulose acetate*.
- Dimethylacetonerhamnose, 1498.
- Dimethylacetonyxose, 1500.
- Dimethyl adipate, cellulose ether solvent, 47.
- Dimethyl-amido-benzene*, see *Xylidine*.
- Dimethylamine, 1641, 1685, 1747, 1749, 1765, 2006.
- , cellulose acetate dyed using, 531.
- , cellulose acetate solvent, 891.
- , cellulose ether dyeing assistant, 2222.
- , cellulose etherified using, 273.
- , cellulose nitrate solvent, 891.
- Dimethylamine chloride, catalyst in cellulose acetating, 354.
- Dimethylamine sulfate, catalyst in cellulose acetating, 354.
- 2.5-*bis*-(*p*-Dimethyl-aminoaniline)-*p*-benzoquinone, cellulose acetate dyed using, 751.
- 4-Dimethylamino-*m*-anisidine, cellulose acetate dyed using, 265.
- , cellulose ether dyed using, 265, 2254.
- , ethylcellulose dyed using, 265.
- 1.4-Dimethylaminoanthraquinone, 2633.
- , cellulose ether dyed using, 2269.
- , printing fabric using, 2328.
- Dimethylaminoazobenzene, amines solvent for, 2010.
- p*-Dimethylaminobenzaldehyde, amines solvent for, 2010.
- p*-Dimethylaminobenzanilid, cellulose ether solvent, 54.
- Dimethylaminobenzene, 4-amino-1.8-naphthalic anhydride combined with, 305.
- Dimethyl-*p*-aminobenzeneazobenzeneazo-1-phenyl-3-methyl-5-pyrazolone, cellulose ether dyed using, 2285.
- Dimethylaminocellulose, 1747.
- Dimethylaminocellulose acetate, 1747.
- 1.4-Dimethylamino-5.6-dimethoxyanthraquinone, cellulose acetate dyed using, 1085.



- 4-Dimethylamino-4'-hydroxydi-phenylamine, cellulose acetate dyed using, 592.  
 —, cellulose ether dyed using, 2285.
- 4'-Dimethylamino-4-hydroxydi-phenylamine, cellulose acetate dyed using, 723.
- 2,8-Dimethylamino-5-hydroxy-1,4-naphthaquinone, cellulose acetate dyed using, 2246.  
 —, cellulose ether dyed with, 198.
- Dimethylamino-*b*-methylcoumarin, 2046.
- Dimethyl-*m*-aminophenol, cellulose acetate dyed using, 751.  
 —, cellulose ether dyed using, 181, 2268.
- Dimethylaminophenyl acetate, 1929.
- p*-Dimethylaminophenyl acetate, 2024.  
 —, cellulose ether solvent, 54.
- Dimethyl-*p*-aminophenyl-1,4-naphthoquinoneimide, cellulose ether dyed using, 2282.
- Dimethyl anhydrocellobiose, 76.
- 1,3,5-Dimethyl-anhydroglucose, 1308.
- Dimethylanhydromethylglucoside, 1508.  
 —, mfr. of, 79.
- Dimethylaniline, 179, 1108, 1340, 1381, 1389, 1398, 1441, 1596, 1607, 1652, 1653, 1750, 1755, 1913, 2016, 2017, 2032.  
 —, acetic acid extracted by, 629, 835.  
 —, acetic acid solvent, 668, 977.  
 —, butylcellulose mfr. in presence of, 185.  
 —, cellulose acetate dyed using, 504, 546, 717, 750, 809.  
 —, cellulose dispersed in, 280.  
 —, cellulose ether dyed using, 2268, 2275, 2280, 2283, 2286, 2288.  
 —, cellulose ether solvent, 51, 1784.  
 —, cellulose ethylated in presence of, 289.  
 —, developer, 2346.  
 —, flash point, 2060.  
 —, lacquer containing, 2418.  
 —, wood, acetylating, in presence of, 836.  
 —, wood treated with, 1035.  
 —, xantho-fatty acid solvent, 2642.  
 —, *see also* Dimethylaminophenyl.
- Dimethylaniline-sulfochloride, 2629.
- Dimethylaniline-*p*-sulfonyl chloride, 1686.
- Dimethylarabinose, 1499.
- 2,4-Dimethylarabinose, 1499.
- Dimethyl-*d*-arabonolactone, 1499.
- 2,5-Dimethyl-*d*-arabonolactone, 1499.
- Dimethylbenzene*, *see* Xylene.
- 1,3-Dimethylbenzenesulfonate, dimethylamid, cellulose acetate plastifier, 521.  
 —, monomethylamid, cellulose acetate plastifier, 521.
- Dimethyl benzoate, acetic acid solvent, 1040.
- Dimethylbenzylurea, 2029.
- Dimethylbutadiene, cellulose ether and as plastic, 254.  
 —, cement, linoleum, containing, 2547.  
 —, polymerizing, 2547.
- Dimethylbutadiene-heat-rubber, lacquer containing, 2399.
- Dimethyl-*n*-butylcarbinol, celluloid solvent, 890.  
 —, cellulose acetate solvent, 890, 1785.
- Dimethylbutylene glycol ether, cellulose acetate solvent, 665.
- $\alpha$ -Dimethylbutyl esters, 1934.
- Dimethylcarbinolchloroform*, *see* Chlore-tone.
- Dimethyl cellosolve, cellulose acetate solvent, 801.  
 —, physical constants, 1792.
- Dimethylcellulose, 37, 1306, 1316, 1624, 1652, 1672, 1673.  
 —, alcohol, solid, made using, 2481.  
 —, alkyl content, 1304.  
 —, bone oil with, for treating leather, 193.  
 —, emulsification using, 2451.  
 —, emulsifier, 119.  
 —, emulsion containing, 2467.  
 —, esterifying, 288.  
 —, ethylation, 1333.  
 —, leather tanned using, 193.  
 —, manufacture of, 76, 167, 252, 288, 1466.  
 —, mineral oil with, for treating leather, 193.  
 —, neatsfoot oil with, for treating leather, 193.  
 —, paper glazed by, 242, 286, 2436.  
 —, tanning with, 249, 2467.  
 —, train oil with, for treating leather, 193.

- Dimethylcellulose, water sensitivity, 1551.  
—, water-soluble, 242.  
—, wool fat with, for treating leather, 193.  
Dimethylcellulose acetate, 76, 78, 1317.  
Dimethylcellulose *monoacetate*, 1316, 1317, 1650.  
—, solubility 1308.  
Dimethylcellulose diacetate, 1650.  
Dimethylcellulose formate, manufacture, 1651.  
Dimethylcellulose nitrate, 1672.  
—, manufacture of, 269.  
Dimethylchlorophenyl phosphate, 1898.  
Dimethylmonochlorophenyl phosphate, benzylcellulose plasticizer, 167.  
—, ethylcellulose plasticizer, 167.  
Dimethyl citrate, manufacture, 895.  
Dimethylcresyl phosphate, 1896.  
Dimethyl-*mono*-cresyl phosphate, benzylcellulose plastifier, 126.  
—, ethylcellulose plastifier, 126.  
Dimethylcyclobutanone, 1984.  
—, cellulose acetate plastifier, 522.  
Dimethylcyclohexanone, 1863, 1888, 1986, 1988.  
—, cellulose acetate plastifier 453.  
2,6-Dimethylcyclohexanone, 1987.  
Dimethylcyclohexanyl adipate, 1992.  
—, physical constants, 1793.  
Dimethylcyclohexanylmethyl adipate, physical constants, 1793.  
Dimethylcyclohexanyl-*b*-methyladipate, 1992.  
Dimethylcyclohexanyl oxalate, 1991.  
Dimethyleyclonaphthanone, 1888.  
Dimethyldextrose, 31.  
1,4-Dimethyldiaminoanthraquinone, cellulose acetate dyed using, 613, 2139.  
4,4'-Dimethyl-5,5'-dichlor-7,7'-dimethoxy-2,2'-bisthionaphthene indigo, dyeing using, 2243.  
*leuco*-4,4'-Dimethyl-6,6'-dichloridioindigo, cellulose acetate dyed using, 638.  
Dimethyl-diethyleneglycol, cellulose ether solvent, 172.  
1,2-Dimethyl-3,6-dihydroxybenzene, dyeing using, 751.  
2,7-Dimethyl-3-dimethylamino-6-methylaminoazonium phenyl chloride, cellulose nitrate and, 283.  
—, ethylcellulose butyrate and, 283.  
—, film, colored, made using, 2531.  
Dimethyl-1,4-dioxane, cellulose ether solvent, 2424.  
Dimethylene glycol phosphate monoalkyl ether, cellulose ester plasticizer, 300.  
—, cellulose ether plasticizer, 300.  
Dimethyleneglycol phosphate monoamyl ether, cellulose ester plasticizer, 300.  
—, cellulose ether plasticizer, 300.  
Dimethylene glycol phosphate monobutyl ether, cellulose ester plasticizer, 300.  
—, cellulose ether plasticizer, 300.  
Dimethyleneglycol phosphate monoethyl ether, cellulose ester plasticizer, 300.  
—, cellulose ether plasticizer, 300.  
Dimethyleneglycol phosphate monomethyl ether, cellulose ester plasticizer, 300.  
—, cellulose ether plasticizer, 300.  
Dimethyleneglycol phosphate monopropyl ether, cellulose ester plasticizer, 300.  
—, cellulose ether plasticizer, 300.  
Dimethylerythrene, plastic made using, 2577.  
2,4-Dimethyl-*d*-erythronic acid, 1497.  
2,3-Dimethyl-*d*-erythronolactone, 1497.  
Dimethyl ether, 1261, 1264, 1693.  
—, acetic acid made using, 772, 957.  
—, anaesthetic properties of, 504.  
—, cellulose acetate plasticizer, 398.  
—, cellulose ether made using, 2460.  
—, flash point, 2060.  
—, manufacture of, 275.  
—, methoxyacetic acid from, 186.  
—, methyl acetate made using, 772, 1045.  
—, methyl chloride in manufacture of, 1253.  
—, methyl sulfate made using, 1258.  
Dimethylethylcarbinol, amines solvent for, 2010.  
—, *see also Amylalcokol (tert); Amylene hydrate.*

- Dimethylethylene glycol, cellulose acetate solvent, 617.  
 —, cellulose ether solvent, 172.  
 —, *see also Butylene glycol*.  
 Dimethylethylene glycol ether, cellulose acetate solvent, 665.  
 Dimethylethyl orthoacetate, cellulose ester solvent, 708.  
 Dimethylfructose, 1505.  
 Dimethyl-*d*-fructose, 1506.  
 Dimethyl fumarate, 1950.  
 —, cellulose ether plastic, 144.  
 Dimethylfuran, 1995.  
 Dimethylgalactose, 1502.  
 Dimethylglucose, 31, 1328, 1478, 1481.  
 2,3-Dimethylglucose 1320, 1480, 1487.  
 2,6-Dimethylglucose, 1320.  
 Dimethylglycerol, 1497.  
 —, cellulose ether solvent, 172.  
 Dimethylglycogen, 1495.  
 Dimethylglycolbutylglycol phosphate, 1897.  
 —, cellulose acetate plastifier, 880.  
 Dimethylglycol ether, 1853.  
 Dimethylglycol phthalate, flash point, 2060.  
 Dimethylglyoxime, amines solvent for, 2010.  
 Dimethylhexylamine, 1746.  
 Dimethyl-*a*-hexylamine, 1741.  
 Dimethyl-*n*-hexylamine, 1747, 1749, 1750.  
 —, cellulose acetate hydrolyzed using, 958.  
 —, cellulose combined with, 228.  
 —, cellulose ester etherified in presence of, 1434.  
 —, esterifying in presence of, 866.  
 Dimethylhydrocellulose, 76, 1316, 1317.  
 —, chloroform solvent for, 1813.  
 —, solvent for, 76.  
 Dimethylhydrocellulose acetate, 1650.  
 Dimethylhydrocellulose monoacetate, 1650.  
 Dimethylhydroquinone, 1860, 1888.  
 N,N'-Dimethyl-indigo, cellulose ester dyed with, 201, 304.  
 —, cellulose ether dyed with, 201, 304.  
*l*-Dimethylinulin, 1505.  
 Dimethyl itaconate, cellulose acetate plasticizer, 844.  
 —, cellulose acetate softener, 663.  
 Dimethyl itaconate, glass, laminated, made using, 663.  
 Dimethyl ketal, *see Acetone*.  
 Dimethyl ketone, cellulose acetate solvent, 813.  
 —, *see also Acetone*.  
 Dimethyllevoglucosan, 1328.  
 Dimethyl malate, manufacture, 895.  
 Dimethyl maleate, 1950.  
 —, cellulose ether plastic, 144.  
 Dimethyl malonate, 1746, 1948.  
 —, cellulose combined with, 228.  
 —, *see also Methyl malonate*.  
 Dimethylmannitol, 1504, 1505.  
 5,6-Dimethylmannonolactone, 1504.  
 Dimethylmannose, 1504.  
 Dimethyl-*b*-methyladipate, cellulose ether solvent, 47.  
 Dimethyl-methylglucoside, 37, 81, 123, 1164, 1306, 1310, 1311, 1477, 1478, 1479, 1480.  
 2,3-Dimethylmethylglucoside, 1509.  
 2,3-Dimethyl-B-methylglucoside, 1508.  
 2,3-Dimethylmethylglucoside-4,6-dinitrate, 1509.  
 Dimethylmethylxylose, 1501.  
 2,3-Dimethylmethylxyloside, 1501.  
 Dimethylmonodichlorophenyl phosphate, 1898.  
 Dimethylnaphthalene, cellulose ester coagulated by, 133.  
 —, cellulose ether coagulated by, 133, 2085, 2097.  
 —, cellulose nitrate with, 1808.  
 Dimethyl-1-naphthylamine-sulfochloride, 2629.  
 Dimethylnaphthyl phosphate, 1896.  
 Dimethylnitrosamine, *see Nitrosodimethylene*.  
*o,o'*-Dimethylol-*p*-cresol ethers, cellulose ether plastifier, 66.  
 Dimethylol thiourea, varnish containing, 2637.  
 Dimethylol urea, 2054.  
 —, varnish containing, 2637.  
 Dimethyl oxalate, *see Methyl oxalate*.  
 Dimethyl oxalic acid, *see iso-Oxybutyric acid*.  
 Dimethyloxyacetic acid, *see iso-Oxybutyric acid*.  
 Dimethyloxyquinazine, *see Antipyrin*.  
 Dimethylpentaerythrite, cellulose ether solvent, 222.  
 Dimethylphenanthrylurea, 2029.

- Dimethylphenylammonium methosulfate, wetting out agents, 1835.  
Dimethylphenylbenzyl-ammonium chloride, cellulose ether dye, 2147.  
Dimethyl-*p*-phenylenediamine, 1641, 1747, 1765.  
—, alkalicellulose compound with, 305.  
Dimethyl-*p*-phenyl-1.4-naphthoquinoneimide, cellulose acetate dyed using, 502.  
Dimethylphenyl phosphate, 1896, 1898.  
Dimethylmonophenyl phosphate, benzylcellulose plasticizer, 126, 167.  
—, ethylcellulose plasticizer, 126, 167.  
Dimethylphenylpyrazolon, 1965.  
Dimethylphenyltolylurea, 2030.  
—, cellulose acetate antacid, 628.  
—, cellulose acetate lacquer containing, 513.  
Dimethylmonophosphate, benzylcellulose plasticizer, 167.  
—, ethylcellulose plasticizer, 167.  
Dimethylphosphinic acid, cellulose ester coagulant for, 226.  
—, cellulose ether coagulant for, 226.  
Dimethyl phthalate, 1923, 1949, 1989, 2024, 2060.  
—, acetic acid solvent, 1040.  
—, cellulose acetate plastifier, 376.  
—, cellulose acetate solvent, 587.  
—, *see also* *Methyl phthalate*.  
*Dimethylpiperazine tartrate, see Lycetol*.  
Dimethylpropylene glycol ether, cellulose acetate solvent, 665.  
*Dimethylprotocatechuic acid, see Veratric acid*.  
1.3-Dimethyl-5-pyrazolone, cellulose acetate dyed using, 499.  
—, cellulose ether dyed using, 2285.  
*Dimethylpyridine, see Lutidine*.  
2.6-Dimethylquinoline, amines solvent for, 2010.  
Dimethylrhamnose, 1498.  
Dimethylsalicin, 1507.  
—, manufacture of, 42.  
Dimethylstarch, 80, 1477, 1480, 1487.  
—, hydrolysis of, 1479.  
—, manufacture of, 123.  
Dimethyl succinate, 1746.  
Dimethyl succinate, cellulose combined with, 228.  
—, *see also* *Methyl succinate*.  
*Dimethyl sulfate, see Methyl sulfate*.  
*o*-Dimethylsulfonamide, cellulose acetate plastifier, 521.  
*p*-Dimethylsulfonamide, cellulose acetate plastifier, 521.  
Dimethyl sulfone, 39, 2001.  
—, cellulose acetate solvent, 509.  
—, cellulose nitrate solvent, 509.  
Dimethyl tartrate, benzylcellulose solvent, 1553.  
—, manufacture of, 895.  
—, *see also* *Methyl tartrate*.  
Dimethyltetramethylmucate, 1510.  
Dimethyltetramethyl-*d*-saccharate, 1510.  
Dimethylthiourea, 2028.  
—, lacquer containing, 2422.  
Dimethyltoluenesulfonamide, methyl sulfate in manufacture of, 1264.  
Dimethyltoluidine, xantho-fatty acid solvent, 2642.  
Dimethyl-*m*-toluidine, cellulose acetate dyed using, 809.  
—, cellulose ether dyed using, 2275.  
Dimethyltriethanolamine, filter made using, 2461.  
Dimethyltrimethoxyglutarate, 1500.  
Dimethyltrimethyl-*l*-arabinose, 1499.  
Dimethyltrimethylmucate, 1510.  
Dimethylurea, 2029, 2030, 2038, 2040.  
—, cellulose acetate plastifier, 634.  
—, cellulose acetate solvent, 453.  
—, cellulose ether solvent, 186.  
—, lacquer containing, 2391, 2395.  
—, plastic made using, 2560.  
*Dimethylxanthine, see Theobromine*.  
Dimethylxylan, 1501.  
Dimethylxylylidine, xantho-fatty acid solvent, 2642.  
Dimethyl-*b*-xylochloralose, 1501.  
3.5-Dimethylxylonolactone, 1501.  
Dimonoethylin, 203.  
Dimonoethylin acid phthalate, cellulose ester plasticizer, 203.  
—, cellulose ether plasticizer, 203.  
Dimonoethylin mannitol, 1974.  
Dimonoethylin oxalate, cellulose ester plasticizer, 203.  
—, cellulose ether plasticizer, 203.

- Dimonoethylin phthalate, 1974.  
—, cellulose ester plasticizer, 203.  
—, cellulose ether plasticizer, 203.  
Dimonoethylin sorbitol, 1974.  
Dimonoethylin succinate, cellulose ester plasticizer, 203.  
—, cellulose ether plasticizer, 203.  
1.4-Di-(monomethylamino-anthraquinone, cellulose ether dyed using, 2323.  
—, film colored by, 2519.  
5.8-Di-monomethylamino-1.2-benzanthraquinone, cellulose acetate dyed using, 983, 2247.  
1.5-Di(monomethylamino)-4.8-dioxanthraquinone, 2319.  
1.4-Di(monomethylamino)-5.6-dioxanthraquinone, cellulose ether dyed using, 2308.  
Dinaphthapyran, 1629.  
*b*-Dinaphthoxylacetic acid, 1942.  
Di-*b*-naphthylamine, cellulose acetate delustred by, 962.  
*aa'*-Dinaphthylamine, cellulose acetate dyed using, 610, 647.  
*bb'*-Dinaphthylamine, cellulose acetate dyed using, 610, 647.  
2.2-Dinaphthylamine, amines solvent for, 2010.  
Dinaphthylketone, 1888.  
*b*-Dinaphthylloxamide, delustring with, 2185.  
Dinaphthyl phosphoric acid anilid, 1896.  
*a*-Dinaphthyl thiourea, delustring by, 932.  
—, dull effect produced using, 2363.  
—, matt effect produced using, 2363.  
*sym-a*-Dinaphthyl thiourea, delustring with, 2185.  
Dinaphthylurea, 2029.  
*a*-Dinaphthylurea, delustring by, 274, 932.  
—, dull effect produced using, 2363.  
—, matt effect produced using, 2363.  
*sym-a*-Dinaphthylurea, delustring with, 2185.  
2.4-Dinitraniline, cellulose ether dyed using, 2250, 2251.  
2.4-Dinitranilineazodihydroxydiethyl-3-amino-1-methylbenzene, cellulose ether dyed using, 2261.  
Dinitro-*b*-acetamidoanthraquinone, cellulose acetate dyeing using, 2232.  
Dinitroacetin, 1844, 1925, 1961.  
Dinitroacetyl glycerol, explosive containing, 395.  
2.4-Dinitro-4'-acetylaminodiphenylamine, cellulose acetate dyed with, 577.  
—, cellulose ether dyed using, 2284.  
Dinitroacridine, cellulose acetate dyed using, 602.  
—, cellulose ether dyed using, 2295.  
2.4-Dinitro-6-alkoxy-aniline, 1082.  
—, cellulose acetate dyeing using, 227.  
—, cellulose ether dyeing using, 227, 2268.  
2.4-Dinitro-6-alkyl aniline, cellulose acetate dyeing using, 227.  
—, cellulose ether dyeing using, 227.  
*m*-Dinitro-*o*-amidophenol acid, see *Picramic acid*.  
2.4-Dinitro-1-aminobenzene, cellulose ether dyed using, 2260.  
3.5-Dinitro-2-aminobenzylsulfonic acid, cellulose ether dyed using, 2256.  
3.5-Dinitro-2-aminobenzyl-*w*-sulfonic acid, cellulose ether dyed using, 275.  
2.4-Dinitro-4'-aminodiphenylamine, cellulose acetate dyed with, 577, 777, 2139.  
—, cellulose ether dyed using, 217, 2255, 2268, 2284.  
4.6-Dinitro-2-amino-1-hydroxybenzene, cellulose ester dyed using, 240.  
—, cellulose ether dyed using, 168, 240.  
Dinitroaminophenol, cellulose acetate dyed using, 975.  
—, cellulose ester dyed using, 240.  
—, cellulose ether dyed using, 156, 240.  
Dinitro-*o*-aminophenol, cellulose ether dyed with, 168, 2262.  
4.6-Dinitroaminophenol, cellulose ether dyed with, 168.  
4.6-Dinitro-*o*-aminophenol, cellulose ether dyed with, 168, 2262.  
2.4-Dinitroaniline, amines solvent for, 2010.  
—, cellulose acetate dyed using, 610, 612, 675, 693, 809, 883.  
—, cellulose ether dyed with, 113, 2250, 2276.

- Dinitroanilinecarboxylic acid, cellulose acetate dyed using, 531.  
 —, diazotized, cellulose ether dyed using, 2279.  
 —Dinitroanilinesulfonic acid, cellulose acetate dyed using, 531.  
 —, diazotized, cellulose ether dyed using, 2279.  
 2.4-Dinitroaniline-6-sulfonic acid, cellulose acetate dyed using, 643.  
 —, cellulose ether dyed using, 2259.  
 2.4-Dinitro-4'-anilinodiphenylamine-6-carboxylic acid, cellulose ester dyed with, 121.  
 —, cellulose ether dyed with, 121.  
 2.6-Dinitro-4'-anilinodiphenylamine-4-carboxylic acid, cellulose ester dyed with, 121.  
 —, cellulose ether dyed with, 121.  
 3.5-Dinitro-*o*-anisidine, cellulose acetate dyeing using, 227.  
 —, cellulose ether dyed with diazotized, 181.  
 —, cellulose ether dyeing using, 227, 2253.  
 —, diazotized, cellulose ether dyed with, 181.  
 2.6-Dinitro-4'-*b*-anisidinodiphenylamine-4-carboxylic acid, cellulose ester dyed with, 121.  
 —, cellulose ether dyed with, 121.  
 1.5-Dinitroanthraquinone, cellulose acetate dyed with, 551.  
 —, cellulose ether dyed using, 2279.  
 Dinitroarylamino-diarylamine, 157.  
 —, cellulose ester dyed with, 121.  
 —, cellulose ether dyed with, 121, 2256.  
 Dinitrobenzene, 1956, 2003, 2004, 2005.  
 —, lacquer containing, 2397.  
*m*-Dinitrobenzene, amines solvent for, 2010.  
 —, flash point of, 2060.  
 1.4-Dinitrobenzene, cellulose ether dyed using, 2254.  
 2.4-Dinitrobenzene-1-azodimethylaniline, printing cellulose ether using, 2323.  
 2.4-Dinitrobenzeneazo-*b*-naphthol, cellulose ether dyed using, 2228.  
 2.2'-Dinitrobenzidine, cellulose ether dyed using, 217, 2269.  
 3.3'-Dinitrobenzidine, cellulose acetate dyed using, 608.  
 —, cellulose ether dyed using, 2296.  
 3.5-Dinitrobenzoic acid, amines solvent for, 2010.  
*Dinitrobenzol*, see *Dinitrobenzene*.  
 Dinitrobenzylcellulose, manufacture, 1598.  
 2.4-Dinitrobenzylchloride, cellulose etherified with, 1598.  
 2.4-Dinitro-brom-benzene, cellulose ether dyed using, 2294.  
 1.2-Dinitro-4-brombenzene, 971.  
 2.4-Dinitro-2'-carboxydiphenylamine, cellulose ether dyed using, 2284.  
 2.4-Dinitro-4'-carboxydiphenylamine, cellulose acetate dyed with, 577.  
 —, cellulose ether dyed using, 2284.  
*Dinitrocellulose*, see *Cellulose dinitrate*.  
 2.6-Dinitro-*p*-chloraniline, cellulose acetate dyed using, 686.  
 Dinitrochlorbenzene, flash point, 2060.  
 2.4-Dinitrochlorbenzene, alkali-cellulose treated with, 207.  
 —, cellulose acetate dyed with, 577.  
 —, cellulose ester dyed using, 220.  
 —, cellulose ether dyed with, 180, 220, 2284, 2286, 2294.  
 2.4-Dinitrochlorbenzene-6-carboxylic acid, cellulose ester dyed using, 220.  
 —, cellulose ether dyed using, 220.  
 2.4-Dinitrochlorbenzene-6-sulfonic acid, cellulose ester dyed using, 220.  
 —, cellulose ether dyed using, 220.  
 3.5-Dinitro-4-chlorbenzoic acid, cellulose ester dyed with, 121.  
 —, cellulose ether dyed with, 121, 2256.  
 Dinitrodiaminoanthraquinones, 2249.  
 4.8-Dinitro-1.5-diaminoanthraquinone 2249.  
 3.3'-Dinitro-4.4'-diaminodiphenylmethane, cellulose ester dyed using, 218.  
 —, cellulose ether dyed using, 218, 2269.  
 2.2'-Dinitro-4.4'-diaminodiphenyl sulfide, 2634.  
 Dinitrodiaminodiphenylurea, cellulose ether dyed using, 2286.  
 4.8-Dinitro-1.5-dichloranthraquinone, cellulose acetate dyed using, 493.

- 4.8-Dinitro-1.5-dichloranthraquinone, cellulose ether dyed using, 2257, 2282.
- 1.2-Dinitro-4.5-dichlorbenzene, 971.
- 3.3'-Dinitro-4.4'-di(dimethylamino)-diphenyl ketone, cellulose ether dyed using, 2296.
- 2.4-Dinitro-4-dimethylaminodiphenylamine, film colored by, 2519.
- 4.4'-Dinitrodiphenyl, amines solvent for, 2010.
- Dinitrodiphenylamine, 1082.
- , cellulose acetate dyed using, 672, 749, 829.
- , printing fabric with, 1000.
- 2.4-Dinitrodiphenylamine, cellulose acetate dyed with, 542, 577.
- , cellulose ether dyed using, 2228, 2284, 2302, 2303.
- Dinitrodiphenylethane, 1809.
- , benzylcellulose plasticizer, 188.
- , benzylcellulose stabilizer, 1575.
- , ethylcellulose plasticizer, 188.
- 4.4-Dinitrodiphenylurethane, cellulose acetate dyed using, 776.
- 4.4'-Dinitrodiphenylurethane, benzylcellulose dyed using, 1586.
- , cellulose ether dyed using, 2287.
- Dinitroformin, 1926.
- Dinitrohaloaryl, cellulose ester dyed using, 241.
- , cellulose ether dyed using, 241.
- 2.4-Dinitro-4'-*p*-hydroxyanilino-6-methylidiphenylamine-3'-carboxylic acid, cellulose ester dyed with, 121.
- , cellulose ether dyed with, 121.
- 2.4-Dinitro-2'-hydroxydiphenylamine, cellulose acetate dyed with, 577.
- , cellulose ether dyed using, 2284.
- 2.4-Dinitro-4'-hydroxydiphenylamine, cellulose acetate dyed with, 577.
- , cellulose ether dyed using, 2284.
- 4.6-Dinitro-8-hydroxynaphthalene, cellulose acetate dyed using, 975.
- 2.4-Dinitro-N-methyldiphenylamine, cellulose acetate dyed with, 577.
- , cellulose ether dyed using, 2284.
- Dinitromonoacetin, 1925.
- Dinitromonochlorhydrin, 1844.
- Dinitronaphthalin, 2003, 2006.
- 2.4-Dinitro-1-naphthol-7-sulfonic acid, amines solvent for, 2010.
- 4.5-Dinitro-*a*-naphthylamine, cellulose acetate dyed using, 610.
- 2.4-Dinitro-1-naphthylamine, cellulose acetate dyed using, 612.
- 3.5-Dinitro-*o*-phenetidine, cellulose acetate dyeing using, 227.
- , cellulose ether dyed using, 227, 2253.
- , cellulose ether dyed with diazotized, 181.
- 2.4-Dinitrophenol, amines solvent for, 2010.
- 2.4-Dinitrophenyl-carbamide, cellulose ether dyed with, 179.
- Dinitrophenylcellulose, 1527.
- 2.4-Dinitrophenylcellulose, mfr. of, 207.
- Dinitrophenylglycol lignin, mfr., 1629.
- 2.4-Dinitrophenyl-*ar*-tetrahydro-*a*-naphthylamine, cellulose ether dyed using, 2294.
- 2.4-Dinitrophenyl-*ar*-tetrahydro-*b*-naphthylamine, cellulose ether dyed using, 2294.
- 2.4-Dinitrophenylurea, cellulose ether dyed using, 2286.
- 2.4-Dinitro-6-sulfofenyl-*ar*-tetrahydro-*a*-naphthylamine, cellulose ether dyed using, 2294.
- 3.3'-Dinitro-4.4'-tetramethyldiaminobenzophenone, cellulose acetate dyed using, 608.
- 3.3'-Dinitro-*o*-tolidine, cellulose ether dyed using, 2296.
- Dinitrotoluene, 1968, 2003, 2004, 2005.
- 2.4-Dinitrotoluene, amines solvent for, 2010.
- 3.5-Dinitro-*o*-toluidine, cellulose acetate dyeing using, 227, 612.
- , cellulose ether dyeing using, 227, 2253.
- , cellulose ether dyed with diazotized, 181.
- 3.5-Dinitro-*p*-toluidine, cellulose acetate dyed using, 685.
- Dinitrotrinaphthyl thiophosphate, 1896.
- Dinitroxylenes, 2004.
- m*-Dinitroxylols, 2020.
- Diolefin, condensate of, 882.
- Dioxane, 301.
- , cellulose acetate softener, 938, 2218.
- , cellulose ether made using, 2460.

- Dioxane, cellulose ether film made using, 2527.  
—, cellulose ether softener, 2134.  
—, cellulose solvent, 1330.  
—, dibutyl phthalate and as cellulose ether solvent, 124.  
—, ethylcellulose crystalline, solvent, 1336.  
—, filter made using, 2460, 2461.  
—, glass, laminated, made using, 2595.  
—, lacquer mfr. using, 2394.  
—, mfr. of, 1066.  
—, methylcyclohexanone and as cellulose ether solvent, 124.  
—, methylglycol acetate and as cellulose ether solvent, 124.  
—, uses, 943.  
—, *see also* 1,4-Dioxane.  
*m*-Dioxane, 1877.  
*p*-Dioxane, 1110, 1877.  
1,4-Dioxane, 1738, 1875.  
—, cellulose acetate hydrolyzed using, 1021.  
—, cellulose acetate solvent, 801, 1020.  
—, cellulose ester plasticizer, 119.  
—, cellulose ether plasticizer, 119.  
—, cellulose ether solvent, 283, 2424.  
—, ink, printing, containing, 2330.  
—, physical constants, 1792.  
—, properties, 698.  
—, uses, 1876.  
Dioxoles, 2629.  
*Dioxyanthranol*, *see* *Anthrarobin*.  
*o*-Dioxybenzene, *see* *Pyrocatechin*.  
*p*-Dioxybenzene, *see* *Hydroquinone*.  
*as-o*-Dioxybenzoic acid, *see* *Protocatechuic acid*.  
2,4-Dioxychinolin, cellulose acetate dyed with, 609.  
Dioxydiarylethane, tannin made with, 1427.  
Dioxydiethylsulfide, 555.  
Dioxydiethylsulfide acetate, cellulose acetate softener, 555.  
Dioxydiethylsulfide benzoate, cellulose acetate softener, 555.  
Dioxydiethylsulfide formate, cellulose acetate softener, 555.  
Dioxydiethylsulfide phthalate, cellulose acetate softener, 555.  
Dioxydinaphthyl ketone, 1888.  
Dioxydiphenyldiethylmethane, 2024.  
Dioxydiphenyldimethylmethane, 1810, 2023, 2105.  
—, cellulose acetate combined with, 416.  
—, cellulose acetate plastic with, 439.  
—, cellulose nitrate plastic with, 439.  
—, film made using, 439, 2501.  
—, horn, artificial, made using, 2608.  
—, phonograph record made using, 439.  
—, plastic made using, 2559.  
Dioxydiphenylmethane-ethyloxyphenyl sulfonate, 2034.  
Dioxydiphenylmethanemethyloxyphenyl sulfonate, 2034.  
Dioxydiphenylmethanenaphthyl sulfonate, 2034.  
Dioxydiphenylmethanenitronaphthyl sulfonate, 2034.  
Dioxydiphenylmethanephenyl sulfonate, 2034.  
Dioxydiphenylmethanepropyloxyphenyl sulfonate, 2034.  
Dioxydiphenylmethanetolyl sulfonate, 2034.  
Dioxydiphenylmethanexyllyl sulfonate, 2034.  
Dioxydiphenylmethylethylmethane, 2023.  
Dioxydiphenylsulfone, 330, 2001.  
Dioxyditolyldimethylmethane, 2024.  
Dioxyditolylsulfone, 2002.  
*Dioxyethylene ether*, *see* 1,4-Dioxane.  
*Dioxyhendecoic acid*, *see* *Dioxyundecylic acid*.  
*a-b*-Dioxypropionic acid, *see* *Glyceric acid*.  
*Dioxypyridinecarbonic acid*, *see* *Citrazinic acid*.  
*Dioxysuccinic acid*, *see* *Tartaric acid*.  
Dioxysulfobenzide, 2001.  
*Dioxytoluene*, *see* *Orcin*.  
*Dioxytriphenylphthalide*, *see* *Phenol-phthalein*.  
Di-penta-propylene, 1853.  
Dipentene, 2045, 2047, 2334.  
—, *see also* *Diamylene*.  
*Dipenteneglycol*, *see* *Terpin hydrate*.  
Diphenol-propane-aldehyde, benzylcellulose combined with, 1364.



- Diphenol--propane-aldehyde, ethyl-cellulose combined with, 1364.  
—, methylcellulose combined with, 1364.  
Diphenyl, amines solvent for, 2010.  
—, *see also* Monophenyl; Phenyl; Triphenyl.  
Diphenyl acetate, cellulose acetate solvent, 446.  
—, lacquer containing, 2391.  
*Diphenyl acetylene*, *see* Tolane.  
Diphenylamine, 1863, 1931, 2014, 2016, 2022, 2026, 2027, 2032.  
—, amines solvent for, 2010.  
—, cellulose acetate dyed using, 546.  
—, cellulose acetate plastifier, 558, 559.  
—, cellulose acetate solvent, 469, 1818, 1819.  
—, cellulose ether dyed using, 2251, 2257.  
—, cellulose ether solvent, 68, 106, 1841.  
—, filament, voluminous, made using, 1071, 1075.  
—, flash point, 2060.  
—, horn, artificial, made using, 2608.  
—, mfr. of, 1755.  
—, printing cellulose ether using, 2324.  
—, triphenyl phosphate and as solvent, 1902.  
—, viscosity lowered by, 2016, 2017.  
Diphenylamine derivatives, cellulose ether dyed using, 2284.  
Diphenylamine-monosulfonic acid, cellulose acetate dyed using, 547.  
—, cellulose ether dyed using, 2294.  
Diphenylaminesulfonic acid, cellulose acetate dyed using, 547.  
—, cellulose ether dyed using, 2251, 2294.  
2,5-Di(phenylamino)benzoquinone, cellulose ester dyed with, 180.  
—, cellulose ether dyed with, 180, 2286.  
Diphenylbenzamide, amines solvent for, 2010.  
Diphenylbenzene, 1081.  
Diphenyl black, cellulose acetate dyed with, 511, 622, 881.  
Diphenyl black base, cellulose ether dyed using, 2299.  
Diphenyl carbinol, 1863, 1888, 1986.  
—, cellulose acetate plasticizer, 398.  
Diphenyl carbonate, 1906.  
Diphenyldisulfoxide, 2001.  
*o*-Diphenyleneethylene, *see* Phenanthrene.  
*a*-Diphenylenemethane, *see* Fluorene.  
Diphenylethane, 1809.  
—, benzylcellulose plasticizer, 188.  
—, benzylcellulose stabilizer, 1575.  
—, ethylcellulose plasticizer, 188.  
—, *see also* Bibenzyl.  
Diphenyl ether, 1871.  
—, cellulose acetate plastifier, 452.  
—, cellulose acetate softener, 661.  
—, cellulose ether solvent, 51.  
*Diphenylethylene*, *see* Stilbene.  
Diphenylethylenediamine, 2024.  
—, cellulose ether solvent, 54.  
Diphenylethylene oxide, 1381.  
—, carbohydrates compound with, 64.  
—, cellulose compound with, 64.  
—, dextrin compound with, 64.  
—, starch compound with, 64.  
—, sugar compound with, 64.  
—, tragacanth compound with, 64.  
Diphenylethyl phosphate, benzylcellulose plastifier, 1575.  
Diphenylglyceryl ether, 1870, 1894.  
—, cellulose acetate plasticizer, 408.  
Diphenylglycolbutyl phosphate, 1897.  
Diphenylguanidine, 1081.  
—, amines solvent for, 2010.  
*Diphenylimide*, *see* Carbazole.  
Diphenyl ketone, 1888.  
—, *see also* Benzophenone.  
Diphenyl ketoxime, amines solvent for, 2010.  
*Diphenyl malonate*, *see* Phenyl malonate.  
Diphenylmethane, 1809, 1913.  
—, cellulose acetate dyed using, 546.  
—, cellulose ether dyeing using, 2238, 2258.  
—, cellulose ether solvent, 51, 2227.  
—, flash point, 2060.  
—, solubilizing agent, 2213, 2219.  
*Diphenylmethylaniline*, *see* Methyl-diphenylamine.

- Diphenylmethyleammonium hydroxide, cellulose mercerized by, 1189, 1191.
- Diphenylmethylether, sulfonated, tanning using, 2468.
- Diphenylmethyl phosphate, benzylcellulose plastifier, 1575.
- Diphenylmonocresyl*, see *Mono-cresyldiphenyl*.
- Diphenylmonocresyl phosphate, 1896, 1898.
- Diphenyl-*b*-naphthyl phosphate, 1897.
- , cellulose acetate plastifier, 972.
- Diphenylol-aldehyde, benzylcellulose combined with, 174.
- , ethylcellulose combined with, 174.
- , methylcellulose combined with, 174.
- Diphenylolbutane-formaldehyde, 1882.
- Diphenylol-cycloheptanone, lacquer mfr. using, 2394.
- Diphenylolcyclohexane, 1980, 1987.
- , benzylcellulose combined with, 1574.
- , cellulose ether coating composition containing, 2407.
- , lacquer containing, 260, 2394.
- Diphenylolcyclohexane-formaldehyde resin, 1987.
- Diphenylol-cyclohexanone, lacquer mfr. using, 2394.
- Diphenylolcycloparaffin, 1980.
- , benzylcellulose combined with, 1574.
- , cellulose ether coating composition containing, 2407.
- , formaldehyde condensate of, 261.
- , lacquer containing, 260, 2394.
- , toluenesulfonamide condensate with, 261.
- , urea condensate with, 261.
- Diphenyl-cyclopentanone, lacquer mfr. using, 2394.
- Diphenylol-methylcyclohexanone, lacquer mfr. using, 2394.
- Diphenylol-naphthene-formaldehyde condensate, 955.
- Diphenylol propane, 297, 1577, 1583, 1857, 1951, 1968, 1980, 1987, 2041, 2042, 2406.
- , adhesive containing, 2598.
- , benzylcellulose solvent, 175.
- , cellulose acetate plastifier, 747.
- Diphenylol propane, cellulose acetate softener, 930.
- , cellulose ether plastifier, 173, 176.
- , glass, laminated, made using, 2591.
- , lacquer containing, 2395.
- , methylcellulose solvent, 175.
- Diphenylolpropane-acetone condensate, cellulose ether and as glass laminant, 260.
- Diphenylolpropane-acetone resin, 2375.
- , lacquer, cellulose ether, containing, 2407.
- Diphenylolpropane-formaldehyde, 1080, 1882.
- , film made using, 2519.
- , lacquer mfr. using, 2394.
- Diphenylolpropane-formaldehyde condensate, cellulose ether and as glass laminant, 260.
- Diphenylolpropane-formaldehyde resin, 930, 2375.
- , lacquer, cellulose ether, containing, 2407.
- , synthetic, wire, coating of, using, 2555.
- Diphenylol-propane-ketone, benzylcellulose combined with, 174.
- , ethylcellulose combined with, 174.
- , methylcellulose combined with, 174.
- Diphenylolpropane resin, lacquer, cellulose ether containing, 2407.
- Diphenyl oxalate*, see *Phenyl oxalate*.
- Diphenylloxamide, cellulose acetate delustred by, 962.
- , delustring with, 2185.
- , see also *Oxanilid*.
- Diphenyl oxide, acetic acid solvent, 956.
- , flash point, 2060.
- Diphenyl phosphoric acid anilid, 1896.
- Diphenyl phthalate, camphor substitute, 119.
- , plasticizer, lacquer, 2400.
- , see also *Phenyl phthalate*.
- Diphenyl-*o*-phthalate, cellulose acetate solvent, 509.
- Diphenylpropane, lacquer mfr. using, 2394.
- Diphenylsuccinate, 1949.
- , see also *Phenyl succinate*.

- Diphenyl sulfone, 39, 2024.  
—, amines solvent for, 2010.  
—, cellulose acetate solvent, 509.  
—, cellulose nitrate solvent, 509.  
—, *see also Sulfobenzide*.  
Diphenylsulfoxide, benzylcellulose stabilizer, 1565.  
—, ethylcellulose stabilizer, 1565.  
—, stabilizer, 1565.  
Diphenylsulfoxide acetate, cellulose ether softener, 80.  
Diphenyl tartrate, lacquer containing, 2395.  
—, *see also Phenyl tartrate*.  
s-Diphenylthiocarbamide, 2024.  
Diphenyl-tolyl-urethane, 1956.  
Diphenyl urea, 1760.  
—, lacquer containing, 2391, 2395.  
—, *see also Carbanilid*.  
sym-Diphenylurea, amines solvent for, 2010.  
Diphenylurethane, 1956.  
Diphosgene, *see Trichlor-methylchlor-formate*.  
Diphthalimidoanthraquinone, cellulose ether dyed using, 2251.  
—, nitrated, cellulose acetate dyed using, 727.  
1.5-Diphthalimidoanthraquinone, cellulose ether dyed using, 2251, 2297, 2298.  
—, nitrated, cellulose acetate dyed using, 737.  
1.5-Diphthaliminoanthraquinone, nitrated, cellulose acetate dyed using, 712.  
1.8-Diphthaliminoanthraquinone, cellulose ether dyed using, 2297.  
—, nitrated, cellulose acetate dyed using, 712.  
Diphtheria toxin, *see Toxins*.  
Dipiperidyl, cellulose acetate dyed using, 672.  
Dipotassium, 2626.  
Dipropionin, cellulose ether dyeing using, 2237.  
Dipropyl, *see Monopropyl; Propyl; Tripropyl*.  
Di-n-propylamine, solubility organic compounds in, 2007.  
Dipropyl barbituric acid, *see Propanol*.  
Dipropylbenzene, lacquer containing, 2393.  
Dipropylcellulose, alkyl content, 1304.  
—, esterifying, 288.  
Dipropylcellulose, mfr., 288.  
Dipropyl-diethyleneglycol, cellulose ether solvent, 172.  
Di-isopropylbutylene glycol ether, cellulose acetate solvent, 665.  
Dipropylene glycol, ethyl ether of, 1850.  
—, methyl ether of, 1850.  
—, propyl ether of, 1850.  
Di-isopropylene glycol ether, cellulose acetate solvent, 665.  
Dipropylene glycol phosphate mono-alkyl ether, cellulose ester plasticizer, 300.  
—, cellulose ether plasticizer, 300.  
Dipropylene glycol phosphate mono-amyl ether, cellulose ester plasticizer, 300.  
—, cellulose ether plasticizer, 300.  
Dipropylene glycol phosphate monobutyl ether, cellulose ester plasticizer, 300.  
—, cellulose ether plasticizer, 300.  
Dipropylene glycol phosphate mono-ethyl ether, cellulose ester plasticizer, 300.  
—, cellulose ether plasticizer, 300.  
Dipropylene glycol phosphate monomethyl ether, cellulose ester plasticizer, 300.  
—, cellulose ether plasticizer, 300.  
Dipropylene glycol phosphate monopropyl ether, cellulose ester plasticizer, 300.  
—, cellulose ether plasticizer, 300.  
Dipropyl ether, 1870.  
Diisopropyl ether, 1870.  
Dipropyl ethylene glycol, cellulose acetate solvent, 617.  
—, cellulose ether solvent, 172.  
Dipropyl fumarate, 1950.  
Dipropyl glycerol, cellulose ether solvent, 172.  
Dipropylglycolbutyl glycol phosphate, 1897.  
—, cellulose acetate plastifier, 880.  
Diisopropylideneacetone, *see Phorone*.  
Dipropyl itaconate, cellulose acetate plasticizer, 844.  
—, cellulose acetate softener, 663.  
—, glass, laminated, made using, 663.  
Dipropylketone, 1700, 1878.  
—, cellulose ether solvent, 52.  
Diisopropyl ketone, 1878.  
—, cellulose ether solvent, 52.

- Di-n-propyl ketone*, see *Butyrone*.  
Dipropyl maleate, 1950.  
Dipropyl malonate, 1949.  
—, see also *Propyl malonate*.  
Dipropylnaphthalene sulfonic acid, 2151.  
Di-iso-propylnaphthalenesulfonic acid, cellulose acetate dyed using, 672.  
*Dipropyl oxalate*, see *Propyl oxalate*.  
Dipropylpentaerythrite, cellulose ether solvent, 222.  
*Dipropyl phthalate*, see *Propyl phthalate*.  
Di-isopropylpropylene glycol ether, cellulose acetate solvent, 665.  
Dipropyl starch, mfr., 100.  
*Dipropyl succinate*, see *Propyl succinate*.  
Dipropyl sulfate, cellulose etherified using, 1298.  
—, see also *Propyl sulfate*.  
Di-n-propyl sulfate, 1281.  
Di-iso-propyl sulfone, 39, 2001.  
—, cellulose acetate solvent, 509.  
—, cellulose nitrate solvent, 509.  
*n*-Dipropyl sulfone, 39, 2001.  
—, cellulose acetate solvent, 509.  
—, cellulose nitrate solvent, 509.  
*Dipropyl tartrate*, see *Propyl tartrate*.  
Diisopropyl tartrate, 1951.  
Di-n-propyl tartrate, 1951.  
4,4'-Dipyridyl (bipyridine), amines solvent for, 2010.  
*Dipyridyl hexahydride*, see *Nicotine*.  
*Diresorcinphthalein*, see *Fluorescein*.  
Disaccharide anhydride, 1158.  
Disazo colors, cellulose ether dyed using, 2259.  
Disazo dye, solubilizing, 2211.  
Disc, polishing, dental, celluloid for, 2539.  
Discharge, electrical, preventing, 2383.  
Discharge effects, producing, 2316.  
Disilicic esters, 1909.  
Disinfectant, cellulose, alkylated, as base for mfr. of, 87.  
—, dextrin, alkylated, as base for mfr. of, 87.  
—, inulin, alkylated, as base for mfr. of, 87.  
Disinfectant, lichenin, alkylated, as base for mfr. of, 87.  
—, starch, alkylated, as base for mfr. of, 87.  
Disodium, 2626.  
Disodium cellulosate, 1535.  
Disodium hydrogen phosphate, dyeing in presence of, 2270.  
Disodium leucoanthraquinonate, cellulose acetate dyed using, 606.  
—, dyeing with, 2243.  
Disodiumphosphate, cellulose acetate dyed using, 578.  
—, cellulose acetate fabric weighted with, 959.  
—, ethylcellulose treated with, 276.  
—, methylcellulose treated with, 276.  
—, mordanting cellulose ether with, 226.  
—, weighting cellulose ether with, 226.  
*Dispermin*, see *Piperazine*.  
Dispersing agent, 2206, 2208.  
—, furfural-anthracene condensate as, 181.  
—, furfural-carbazole condensate as, 181.  
—, furfural-naphthalene condensate as, 181.  
—, furfuramide-anthracene condensate as, 181.  
—, furfuramide-carbazole condensate as, 181.  
—, furfuramide-naphthalene condensate as, 181.  
—, methylfurfural-anthracene condensate as, 181.  
—, methylfurfural-carbazole condensate as, 181.  
—, methylfurfural-naphthalene condensate as, 181.  
Dispersions, benzylcellulose for, 1581.  
Dispersol, cellulose acetate dyed by, 619, 797, 809.  
Dispersol dyes, 694.  
—, application of, 2312.  
—, cellulose acetate dyed with, 542.  
Dispersol Fast Orange A, 292.  
—, printing cellulose ether using, 2324.  
Dispersol Fast Orange BS, 292.  
—, printing cellulose ether using, 2324.  
Dispersol Fast Yellow A, 292.

- Dispersol Fast Yellow A, printing cellulose ether using, 2324.  
 Dissolvan DN, 1918.  
 Dissolving salt B, 2240.  
 Distillation processes, peat for, 1165.  
 Di-*p*-sulfo-2,7-dioxynaphthalin, 2043.  
 1,4-Di (2'-sulfo-*p*-toluidino) anthraquinone, cellulose ether dyed using, 2274.  
 —, sulfonated, cellulose ether dyed using, 298.  
 Disulfoxides, benzylcellulose stabilizer, 1565.  
 —, ethylcellulose stabilizer, 1565.  
 —, stabilizer, 1565.  
 Diterebene, 1806.  
 Dithiocarbonic-O-oxyalkylcellulose ester, 1399.  
 —, salts of, mfr. of, 247.  
 Dithiomethane, 1758, 1760.  
 —, *see also* Carbon bisulfide.  
*B-Di-thio-oxybenzoic acid*, *see B-Dithio-salicylic acid*.  
 Dithiopyroglycid, cellulose acetate plasticizer, 342.  
 4,4'-Dithioureidobiphenyl, delustring by, 274, 2185.  
 Ditoluene, film made using, 2510.  
 1,4-Di-*p*-toluidinoanthraquinone, cellulose acetate dyed using, 612.  
 —, cellulose ether dyed with, 65.  
 —, ethylcellulose dyed using, 2229.  
*Ditolyl*, *see* *Monotolyl*; *Tolyl*; *Tritolyl*.  
*sym*-Di-*p*-tolyl-1,4-diaminoanthraquinone, cellulose ether dyed using, 2228.  
 Ditolyldisulfoxide, 2002.  
 Ditolyldisulfoxide acetate, cellulose ether softener, 80.  
 Ditolylethane, 1809.  
 —, benzylcellulose plasticizer, 188.  
 —, benzylcellulose stabilizer, 1575.  
 —, ethylcellulose plasticizer, 188.  
 Ditolyl ketone, 1888.  
 Di-*p*-tolylselenide, amines solvent for, 2010.  
 Ditriethylurea, 2029.  
 Di-(trimethylanhydrofructose), 1505.  
 Diurea methylaniline, 2031.  
 4,4'-Diureidobiphenyl, delustring, 274.  
 Divinyl ether, 1993.  
 Divinylethyleneglycol chlorhydrin, cellulose ether etherified by, 1401.  
 Di-xylene, cellulose ether delustred by, 133.  
 —, ethylcellulose delustred by, 133.  
 —, film made using, 2510.  
*Dixyl*, *see* *Monoxyl*; *Trixyl*; *Xyl*.  
 Dixylylethane, 1809, 1889, 1976.  
 —, benzylcellulose plasticizer, 188.  
 —, benzylcellulose stabilizer, 1575.  
 —, ethylcellulose plasticizer, 188.  
*m*-Dixylylethane, cellulose acetate solvent, 1819.  
 —, insulator containing, 2442.  
 Dixylylglycol, 1874.  
 Documents, paper, preserving, cellulose ether for, 2635.  
 —, parchment, preserving, cellulose ether for, 2402.  
 —, preserving, 2402.  
 Dodecanaphthalene, solubilizing agent, 2219.  
 Dodecanaphthane, cellulose ether solvent, 2227.  
 —, solubilizing agent, 2213.  
 Dodecane, cellulose ether solvent, 106.  
 Dodecyl acetate, 1929.  
*n*-Dodecyl alcohol, dispersing agent, 2209.  
 Dodecyl butyrate, 1929.  
 Dodecyl oleate, 1929.  
 Doffer-knife, cellulose acetate covered, 1933.  
 Dolphin oil, stencil sheet made using, 664, 2490.  
 Dominoes, cellulose acetate in mfr. of, 707.  
 Dope, airplane, acetone solvent for, 1879.  
 —, —, cellulose acetate for, 1689, 2481.  
 —, —, cellulose acetate, mfr., 613, 628.  
 —, —, durability, 648.  
 —, —, evaporation of, lessening, 441.  
 —, —, mfr. of, 442, 1094.  
 —, —, proofing, 648.  
 —, —, tautening, 648.  
 —, cellulose acetate, evaporation of, lessening, 441.  
 —, —, non-transparent, castor oil for, 670.  
 —, —, —, mfr. of, 670.

- Dope, cellulose butyrate for mfr. of, 559.  
—, *see also* *Lacquer.*  
Dormiol, 1867.  
Double refraction, 892.  
Doverite, 449.  
Dramatine, waterproofing, 139.  
Drawing frame, cellulose acetate covered, 933.  
Dress goods, physical properties of, 657.  
Dressing, bandage, cellulose ether in mfr., 2449.  
—, surgical, cellulose acetate for, 1098.  
—, —, cellulose ether for, 178, 2449.  
"Dreyfusilk," 491.  
Driving belt, cellulose acetate for coating, 414.  
—, *see also* *Belt, driving.*  
Drum-heads, mfr., 1667.  
Drya, delustring, 909.  
—, dyeing properties, 909.  
—, fluorescence, 909.  
—, properties, 909.  
*Duatol, see Guaiacol acetate.*  
*iso-Dulcit, see Rhamnose.*  
Dulcitan monochlorhydrin, cellulose etherid by, 1401.  
Dulcite, 1874.  
—, acetate of, 311.  
*Dulcitol hexahydrobenzoate, see Dulcitol naphthenate.*  
Dulcitol linoleate, 1966.  
Dulcitol montanate, 1966.  
Dulcitol naphthenate, 1966.  
*Dulcitol nitrate, see Nitrodulcitol.*  
Dulcitol oleate, 1966.  
Dulcitol resinate, 1966.  
Dulcitol ricinoleate, 1966.  
Dulcitol stearate, 1966.  
Duodecylene, cellulose ether solvent, 2227.  
—, solubilizing agent, 2213, 2219.  
*Duplicate glass, see Glass, laminated.*  
Duplex glass, mfr., 2583.  
Duplicating, sheets for, mfr., 2486.  
*Duplicating sound record, see Phonograph record.*  
Durability, phenol-condensate for, 648.  
Duralium, coating, 2392.  
Duranol, 826, 2321.  
—, cellulose acetate dyed by, 618, 619, 641, 809, 920.  
—, cellulose acetate dyestuff, 677.  
Duranol, cellulose ether dyed with series, 2234.  
—, printing, color, with, 2327.  
Duranol black 2R, cellulose ether dyed using, 2291.  
Duranol Blue CB, 902.  
Duranol Blue G, cellulose ether dyed using, 2291.  
Duranol dye, application of, 2312, 2320.  
Duranol Orange G, 902, 2252.  
—, cellulose ether dyed using, 2291.  
Duranol Red 2B, 902, 2252.  
—, cellulose ether dyed using, 2291.  
Duranol Red G, cellulose ether dyed using, 2291.  
Duranol Violet, 837.  
—, cellulose ether dyed using, 2259.  
Duranol Violet 2R, cellulose ether dyed using, 2291.  
Duranthene Blue GCD, dyeing with, 2243.  
Duranthrene Red, cellulose acetate dyed using, 723.  
—, cotton dye using, 723.  
Duratex, permeability, 944.  
Durene, 1806.  
—, *see also* *Tetramethylbenzene.*  
Durindone Red Y, cellulose acetate using, 853.  
—, discharge effect with, 2347.  
*Durol, see Durene.*  
*Dutch liquid, see Ethylene chloride.*  
Dye, acid, fixing, 675.  
—, alkylcellulose for preserving in finely divided state, 208.  
—, anthraquinone vat, 2147.  
—, azo, 131, 135.  
—, —, cellulose ester colored with, 235.  
—, —, cellulose ether colored with, 235.  
—, basic, 675.  
—, cellulose ester, 2245.  
—, cellulose ether, 2245.  
—, chrome, 2251.  
—, diaminoazo, 129.  
—, diazo, cellulose ester colored with, 235.  
—, —, cellulose ether colored with, 235.  
—, diazoazo, cellulose ester colored with, 235.  
—, —, cellulose ether colored with, 235.  
—, direct, cellulose ether dyed using, 2232.

- Dye, disazo, 138.  
—, embossing, mfr., 1091.  
—, hydrocyanaphthoic arylide, cellulose acetate colored by, 1033.  
—, indigoid, 2147.  
—, mfr., 1085.  
—, methylcellulose for preserving in finely divided state, 208.  
—, monoazo, 138.  
—, —, mfr., 1085.  
—, preserving, 121.  
—, solubilized, cellulose ether for mfr., 2478.  
—, —, 2-hydroxy-3-naphthoic acid anilid for, 2478.  
—, —, methylcellulose for, 2478.  
—, stripping, 2319.  
—, sulfate, cellulose acetate colored with, 611.  
—, sulfur, cellulose acetate dyed with, 2311.  
—, tetrazo, cellulose ester colored with, 235.  
—, —, cellulose ether colored with, 235.  
—, triarylmethane, cellulose acetate dyed using, 2248.  
—, vat, 121.  
—, —, cellulose acetate dyed with, 2311.  
—, —, dyeing, 2239.  
—, —, printing, 2239.  
—, volatile, 2348.  
—, water soluble, cellulose acetate dyed with, 611.  
Dyeing, cellulose acetate for, 671, 678, 689.  
—, cellulose esters for, 671.  
—, intermittent, 221.  
—, package, cellulose ether dyed using, 2307.  
—, resists in, mfr., 190.  
—, —, preparing, 190.  
Dyestuffs, affinity, increasing, 2221.  
—, basic, cellulose acetate dyed with, 2234.  
—, —, cellulose ether dyed with, 2234.  
—, identification, 680.  
—, odorless, benzylcellulose in, 1580.  
—, reactions, 680.  
  
Ear, artificial, cellulose acetate in mfr. of, 423.  
Earthnut oil, cellulose acetate softened using, 843.  
  
Earthnut oil, softener, 2216.  
—, *see also* *Arachis oil*.  
Earth oil, 269.  
East India gum, constants of, 2056.  
Eberstadt method, 996.  
Ebonite, 1557.  
—, artificial, cellulose acetate for, 731.  
—, dental use of, 2536.  
—, rubber attaching to, 1098.  
Ebony, cellulose acetate in simulating, 580.  
Edible product, cellulose acetate in mfr. of, 479.  
Effects, brocade, producing, 2362.  
—, colored, 2347.  
—, crepe, 2332.  
—, damask, 2340.  
—, discharge, 2330.  
—, —, colored, 2347.  
—, dull, producing, 2363.  
—, intermittent, 2347.  
—, matt, producing, 2363.  
—, metallic, producing, 163.  
—, moire, producing, 2341.  
—, mottled, producing, 2350.  
—, multi-colored, 2347.  
—, resist, 2330.  
—, woolly, producing, 2331.  
Egg albumen, glass, laminated, made using, 2585.  
Egg wrapper, ethylcellulose acetate for waterproofing, 139.  
Egg yolk, methylcellulose as substitute for, 249, 2455.  
*Egyptian cotton*, *see* *Cotton, Egyptian*.  
Einstein's formula, 808.  
*Elaidinic acid*, *see* *Elaidic acid*.  
*Elalol*, *see* *Dibutyl phthalate*.  
*Elaol*, *see* *Butyl phthalate*.  
Elasticity, cellulose ester filament increased, 226.  
—, cellulose ether filament increased, 226.  
*Elayl chloride*, *see* *Ethylene chloride*.  
Elecampane, inulin from, 1156.  
Elecampane oil, 2044.  
Electrical discharge, preventing in fibers, 215.  
*Electric condenser*, *see* *Condenser, electric*.  
Electric insulation, benzene in mfr., 1803.

- Electricity, frictional, dissipating, 2384.  
*Electric light filaments, see Filaments, electric light.*  
 Electrode, arc welding, cellulose acetate in mfr., 843.  
 —, cellulose acetate coated, 736.  
 —, cellulose acetate in mfr. of, 342.  
 Elemi, 1911, 1921.  
 —, acetone as solvent of, 1885.  
 —, benzyl acetate solvent for, 1928.  
 —, benzyl alcohol solvent for, 1862.  
 —, cellulose acetate plastic with, 442.  
 —, cellulose nitrate plastic with, 442.  
 —, cement of, 473.  
 —, cyclohexanone solvent of, 1985.  
 —, cyclohexanyl acetate solvent of, 1990.  
 —, dichlorethane solvent for, 1816.  
 —, dichlorethylene solvent for, 1821.  
 —, dioxane solvent for, 1876.  
 —, epichlorhydrin solvent for, 1842.  
 —, ethyleneglycol monoethyl ether solvent for, 1851.  
 —, ethylglycol solvent for, 1851.  
 —, furfuryl alcohol solvent for, 1999.  
 —, lacquer containing, 2423.  
 —, pentachlorethane solvent for, 1818.  
 —, *n*-propyl acetate solvent of, 1917.  
 —, solvents for, 1849.  
 —, toluene solvent for, 1805.  
 —, trichlorethylene solvent for, 1825.  
 —, *see also Resins.*  
 Embossing, 2355, 2639.  
 Embroidery, mfr. of, 2360.  
 Emery, 2193.  
 —, cellulose acetate delustred using, 854.  
 —, cellulose ester delustred by, 221.  
 —, cellulose ether delustred by, 221.  
 —, delustred with, 2194.  
*Empyreumatic oil of juniper, see Cade, oil of.*  
 Emulgent, 1378.  
 Emulsifier, 119.  
 —, cellulose acetate as, 340.  
 Emulsifying, cellulose ether for, 2451.  
 —, ethylcellulose for, 2136.  
 —, methylcellulose for, 2136.  
 Emulsion, benzylcellulose for, 1569, 1581.  
 —, carnauba wax, delustring with, 2183.  
 —, castor oil in mfr., 1569.  
 —, cellulose ester, mfr., 223, 267.  
 —, cellulose ether, 215, 2447.  
 —, —, benzylcellulose for mfr., 1568.  
 —, —, mfr., 223, 267.  
 —, cellulose nitrate mfr., 267, 2456.  
 —, chalk in, 2456.  
 —, ethylcellulose, 112.  
 —, ethylcellulose in mfr., 1569, 1570.  
 —, ethyl starch in mfr., 1569.  
 —, kieselguhr in, 2456.  
 —, mfr. of, cellulose ether for, 86.  
 —, methylcellulose for, 1347, 1570, 2456.  
 —, olive oil in mfr., 1569.  
 —, photographic, cellulose acetate for, 356.  
 —, poppy seed oil in mfr., 1569.  
 —, print-out, cellulose acetate for, 2501.  
 —, rubber, sizing with, 2140.  
 —, wood flour in, 2456.  
 Enamel, acetate, camouflage, mfr., 2391.  
 —, benzylcellulose, 224.  
 —, —, mfr., 214, 1577.  
 —, black, mfr., 816.  
 —, cellulose acetate, mfr., 816.  
 —, cellulose dilaurate for, 1717.  
 —, cellulose ester, mfr., 223, 294.  
 —, cellulose ether, mfr. of, 223, 294.  
 —, China wood oil and cellulose ester for mfr. of, 249.  
 —, China wood oil and cellulose ether for mfr. of, 249.  
 —, cobalt-*n*-butyl phthalate with cellulose derivative for, 230.  
 —, copper-*n*-butyl phthalate with cellulose derivative for, 230.  
 —, iron-*n*-butyl phthalate with cellulose derivative for, 230.  
 —, linseed oil and cellulose ester for mfr. of, 249.  
 —, linseed oil and cellulose ether for mfr. of, 249.  
 —, pigment, cellulose acetate, mfr., 816.  
 —, pigmented, cellulose ether in mfr., 2480.  
 —, shoe, celluloid in mfr., 2472.  
 —, spraying, mfr., 223.



- Enamel, zinc-*n*-butyl phthalate  
with cellulose derivatives for, 230.  
*Enamel cloth*, see *Cloth, enamel*.  
*Enameled leather*, see *Leather, enameled*.  
*Enanthaldehyde*, see *Oenanthal*.  
*Enanthol*, 1867.  
Endecamethyltriol, 1497.  
*Engraved plates*, see *Plates, engraved*.  
Engravings, cartographic, cellulose acetate for, 1098.  
Enka-Drya, 909.  
*n-Ennoic acid*, see *Pelargonic acid*.  
Enzymes, silk degummed using, 685.  
Eosin, amines solvent for, 2010.  
—, dyeing cellulose ether with, 164.  
—, lakes made using, 2239.  
Epichlorhydrin, 64, 1064, 1381, 1388, 1397, 1398, 1684, 1697, 1769, 1839, 1842, 1843, 2037, 2628.  
—, cellulose acetate dyed using, 530.  
—, cellulose acetate solvent, 324, 336, 352, 470, 471, 791, 1691, 1818, 1819, 1842, 1843.  
—, cellulose compound with, 60, 89.  
—, cellulose ether dyeing using, 2237.  
—, cellulose etherified using, 274, 1382, 1401.  
—, cellulose ether softener, 2349.  
—, cellulose ether solvent, 53, 132, 1841, 1842.  
—, cellulose sulfonate solvent, 364.  
—, cotton treated with, 404.  
—, ethylcellulose solvent, 19.  
—, ethylcellulose xanthanilid solvent, 1644.  
—, starch ether solvent, 1483.  
*b-Epidichlorhydrin*, 1403.  
*Epidualogenhydrin*, 1590.  
Epiformin, 1925.  
*Epihalogenhydrin*, 1590.  
Epihydric alcohol, 1831.  
Epihydrin alcohol, 1831.  
*b-Epoxypropyl alcohol*, 1831.  
*Epsom salts*, see *Magnesium sulfate*.  
*Equisetic acid*, see *Aconitic acid*.  
Erganol, 1873.  
—, cellulose acetate solvent, 699.  
—, see also *Dibenzyl ether*.  
Ergol, 1959.  
—, cellulose acetate solvent, 699.  
—, see also *Benzyl benzoate*.  
*Ergotinic acid*, see *Ergotic acid*.  
*Ericin*, see *Mesotan*.  
Erigeron oil, 2044.  
Ertherma solars, anthracene-sulfonic acid in treatment of, 2450.  
—, naphthol-sulfonic acid in treatment of, 2450.  
—, naphthylamine-sulfonic acid in treatment of, 2450.  
Erythrene, cellulose ether and as plastic, 254.  
—, polymerizing, 2547.  
*Erythric acid*, see *Alloxan*.  
*Erythrin*, see *Erythric acid*.  
Erythrite, 1856, 1874.  
Erythrite chlorhydrin, cellulose etherified by, 1401.  
Erythritediformal, 1857, 1874, 1886, 1894.  
Erythritol acetate, 1912.  
Erythritol benzoate, 1912.  
Erythritol formate, 1912.  
Erythritol maleate, 1912.  
Erythritol phthalate, 1912.  
Erythritol oxalate, 1912.  
Erythritol succinate, 1912.  
*Erythroglucin*, see *Erythrite*.  
*Erythrol*, see *Erythrite*.  
*Erythromannite*, see *Erythrite*.  
Erythrulose, 1498.  
*Esculin*, see *Aesculin*.  
*Esculinic acid*, see *Aesculin*.  
Esparto, 1180.  
—, acetylated, 545, 1181.  
—, alkylating, 282.  
—, benzylating, 282, 1181, 1628.  
—, cellulose from, 296.  
—, etherification of, 12.  
—, ethylation of, 1181, 1628.  
—, lignin, etherified, from, 296.  
—, methylation of, 79, 1181.  
—, nitration of, 1181.  
Esparto grass, benzylating, 1541.  
Esparto grass ether, mfr. of, 282.  
—, solubility of, 282.  
Essence d'Orient, mfr., 2612.  
*Essence of mirbane*, see *Nitrobenzene*.  
*Essence niobe*, see *Methyl benzoate*.  
Essence of rose, dental plate containing, 2537.  
Ester gum, 139, 1911, 1921, 1969.  
—, amyl furoate solvent for, 1997.  
—, benzyl acetate solvent for, 1928.  
—, benzyl alcohol solvent for, 1862.  
—, butyl acetate solvent of, 1919.  
—, butyl furoate solvent for, 1997.

- Ester gum, cellulose ether varnish with, 135.
- , cyclohexanyl acetate solvent of, 1990.
- , dichlorethane solvent for, 1816.
- , dioxane solvent for, 1876.
- , epichlorhydrin solvent for, 1842.
- , ethyl furoate solvent for, 1997.
- , furfural solvent for, 1997.
- , furfuryl alcohol solvent for, 1997, 1999.
- , lacquer containing, 1572.
- , methyl furoate solvent for, 1997.
- , paper, decalomania, made using, 2552.
- , *n*-propyl acetate solvent of, 1917.
- , propyl furoate solvent for, 1997.
- , solvents for, 1849.
- , tetrahydrofurfuryl alcohol solvent for, 1997.
- , waterproofing using, 2637.
- Esterification*, see *Cellulose, acetylation*; *Cellulose, formylation*.
- Esterification of cellulose*, see *Cellulose esterification*.
- Ester P*, see *Ethyl propionate*.
- Ester resin, plastic made using, 2574.
- Esters, inorganic, 1908.
- , mfr. of, 788.
- Estinol*, see *Ethyl lactate*.
- Estisol*, see *Ethyl lactate*.
- Estoral, 1938.
- Eteline*, see *Perchloroethylene*; *Tetrachlorethylene*.
- Ethal*, see *Cetyl alcohol*.
- Ethal alcohol*, see *Cetyl alcohol*.
- Ethane, chlorinated, internal pressure of, 529.
- , ethyl chloride from, 1272.
- , tetrachlorinated, see *Tetrachlorethane*.
- Ethenediol, 1837.
- Ethanedioxylureid*, see *Parabanic acid*.
- Ethane-sulfonic acid, 1701.
- , cellulose butyrate made from, 905.
- , cellulose *iso*-butyrate made from, 905.
- Ethanethiolic acid*, see *Thioacetic acid*.
- aab-Ethane trichloride*, see *Trichlorethane*.
- Ethanol*, see *Ethyl alcohol*.
- Ethanolamine, 2639.
- Ethanolamine, delustring by, 304, 2187.
- , softener, 2221.
- mono-Ethanolamine*, cellulose acetate delustred by, 937.
- , delustring by, 305.
- , electrical discharge in fibers prevented by, 215.
- , see also *Monoethanolamine*.
- 1-Ethanol-amino-anthraquinone, 2319.
- mono-Ethanol-m-toluidine*, cellulose acetate dyed using, 596.
- Ethenehydrinsulfonic acid*, see *Isethionic acid*.
- Ethenylethenyltrichloramidine, 2022.
- Ethenyltetrachloramidine, 2018.
- Ether, acetic acid extracted using, 605, 748, 772.
- , acetic acid solvent, 926.
- , acetic anhydride made using, 770.
- , acetic anhydride extracted with, 605.
- , acetylating cellulose in presence of, 418.
- , alkali cellulose made in presence of, 59.
- , benzylcellulose solvent, 278, 1345.
- , butylbenzylcellulose solvent, 278, 1345.
- , butylcellulose solvent, 278, 1345.
- , cellulose acetate solubility, 1345.
- , cellulose acetate non-solvent, 324, 336.
- , cellulose acetobutyrate solubility, 1345.
- , cellulose acetybutyrolaurate, solubility, 1345.
- , cellulose acetolaurate, solubility, 1345.
- , cellulose acetopropionate, solubility, 1345.
- , cellulose butyrate, solubility, 1345.
- , cellulose butyrolaurate, solubility, 1345.
- , cellulose capronate, solubility, 1345.
- , cellulose esterified in presence of, 865.
- , cellulose ether non-solvent, 244.
- , cellulose ether solvent, 8, 1447.
- , cellulose formate, solubility, 1345.

- Ether, cellulose laurate, solubility, 1345.  
 —, cellulose naphthenate, solubility, 1345.  
 —, cellulose naphthenate-laurate, solubility, 1345.  
 —, cellulose naphthenate-oleate-laurate, solubility, 1345.  
 —, cellulose pelargonate, solubility, 1345.  
 —, cellulose propionate, solubility, 1345.  
 —, cellulose stearate, solubility, 1345.  
 —, cellulose valerate, solubility, 1345.  
 —, diethyl, mfr., 1416.  
 —, ethyl, ethylcellulose solvent with carbon bisulfide, 154.  
 —, —, *see also Ethyl ether*.  
 —, ethylbenzylcellulose solvent, 278, 1345.  
 —, ethylbutylcellulose solvent, 278, 1345.  
 —, ethylcellulose, crystalline, solvent, 1336.  
 —, ethylcellulose solvent, 278, 1332, 1345.  
 —, guanin insoluble in, 2614.  
 —, lacquer containing, 2406.  
 —, methylated, acetic acid extracted with, 748.  
 —, methylating in presence of, 36.  
 —, methylcellulose solvent, 278, 1345.  
 —, methylin solvent, 277.  
 —, ordinary, *see Ether*.  
 —, propionic acid extracted using, 605.  
 —, propylbenzylcellulose solvent, 278, 1345.  
 —, propylcellulose solvent, 278, 1345.  
 —, toxicity of, 555.  
 —, *see also Ethyl ether*.  
 Ether acetate, cellulose acetate solvent, 995.  
 —, cellulose nitrate solvent, 995.  
*Ether-alcohol, see Alcohol ether*.  
 Ethercellulose hydrate, plastic of, 129.  
 Ether-dicarboxylic acid, 2426.  
 Ether glue, 2445.  
 Ethers, lichenin, 1164.  
 —, mfr. of, 1416.  
*Ether silk, see Filament, artificial, cellulose ether*.  
*Ethidene bichloride, see Ethylidene chloride*.  
 Ethonic acid, 1261.  
*Ethox, see Ethylglycol phthalate*.  
 Ethoxyacetic acid, 1693.  
 Ethoxyacetic anhydride, 1693.  
 Ethoxyacetone, 1870.  
 Ethoxyacetophenone, 1888.  
 Ethoxyacetylborneol, 2048.  
 Ethoxyacetylsantalol, 2048.  
 Ethoxyallylethylaniline, 2014.  
*o-Ethoxy-ana-mono-benzoyl-amido-quinoline, see Quinalgen*.  
*o-Ethoxybenzene- $\alpha$ -naphthylamine, cellulose ether dyed using, 2285*.  
 Ethoxy-benzylalcohol, camphor substitute, 2051.  
 —, cellulose acetate plastifier, 452.  
 2-Ethoxy-1,4-diaminoanthraquinone, cellulose ester dyed with, 197.  
 —, cellulose ether dyed by ethers of, 122.  
 —, cellulose ether dyed with, 197, 2261.  
 Ethoxyethylcellulose, 226, 1396.  
 Ethoxyethyl lactate, 1946.  
*b-Ethoxyethyl lactate, 1947*.  
*p-Ethoxyformanilid, see Formylphenetidine*.  
 4-*b*-Ethoxyhydroxyaniline, cellulose ether dyed using, 2264.  
 Ethoxyl, determination of, 2656.  
 Ethoxymethylcellulose, 1396.  
 1-Ethoxy-naphthalene, camphor substitute, 2051.  
 2-Ethoxy-naphthalene, camphor substitute, 2051.  
 4'-Ethoxy-2-oxy-5-methylazobenzene, cellulose ether dyed using, 299, 2228.  
 Ethoxyphenone, 1863, 1986.  
*b-Ethoxypropionic acid, 1693*.  
 —, mfr. of, 186.  
*Ethyl, see Diethyl; Monoethyl; Triethyl*.  
 Ethyl abietate, 1568, 1954, 1955.  
 —, benzylcellulose solvent, 293.  
 —, ethylcellulose solvent, 293.  
 —, lacquer containing, 2397.  
 —, mfr. of, 884, 975.  
 —, transfer made using, 2548.  
 —, transfer, gold, made using, 2550.  
 —, —, multicolor, made using, 2549.  
 Ethylacetanilid, 1091, 1891, 1956, 2020, 2022, 2023, 2024, 2026, 2037.

- Ethylacetanilid, adhesive made using, 294.
- , cellulose acetate plasticizer, 375, 495, 507, 926.
  - , cellulose acetate solvent, 469, 471, 1818, 1819, 1843.
  - , cellulose ether solvent, 52.
  - , cork with as plastic, 153.
  - , flash point, 2060.
  - , plastic made using, 2563.
- Ethyl acetate, 1091, 1652, 1746, 1849, 1914, 1932, 1935, 1970, 1993, 1998, 2002, 2027, 2392.
- , acetic acid made from, 662, 667.
  - , acetic acid concentrated using, 715.
  - , acetic acid extracted by, 772, 1019, 1045.
  - , acetic acid solvent, 928, 1002.
  - , acetic anhydride made from, 662.
  - , benzaldehyde solvent with, 50.
  - , benzylcellulose solvent, 178, 248, 278, 1345, 1555, 1587.
  - , benzyldextrin solvent, 1516.
  - , benzyl starch solvent, 1516.
  - , butylbenzylcellulose solvent, 278, 1345.
  - , butylcellulose solvent, 278, 1345.
  - , butyl tartrate solvent with, 50.
  - , carbon tetrachloride and, cellulose ether solvent, 99.
  - , celluloid solvent, 890.
  - , cellulose acetate dyed using, 602.
  - , cellulose acetate filaments made using, 531.
  - , cellulose acetate non-solvent, 324, 336.
  - , cellulose acetate precipitated by, 1043.
  - , cellulose acetate recovered by, 440.
  - , cellulose acetate relustred by, 623.
  - , cellulose acetate sheets decorated using, 720.
  - , cellulose acetate softener, 661.
  - , cellulose acetate solvent, 469, 484, 587, 699, 738, 813, 890, 1042, 1067, 1345, 1691, 1785, 1818, 1819, 1843, 2355, 2435.
  - , cellulose acetate solvent mixture containing, 574.
  - , cellulose acetate solvent recovered by, 440.
- Ethylacetate, cellulose acetate, stretch spinning in bath of, 785.
- , cellulose acetate swelling agent, 908.
  - , cellulose acetobutyrate, solubility, 1345.
  - , cellulose acetobutyrolaurate, solubility, 1345.
  - , cellulose acetolaurate, solubility, 1345.
  - , cellulose acetopropionate, solubility, 1345.
  - , cellulose acetylated in presence of, 849.
  - , cellulose butyrate, solubility, 1345.
  - , cellulose butyrolaurate, solubility, 1345.
  - , cellulose capronate, solubility, 1345.
  - , cellulose combined with, 228.
  - , cellulose esterified in presence of, 865.
  - , cellulose ether ink containing, 2747.
  - , cellulose ether solvent, 8, 50, 52, 1447, 1841, 2079.
  - , cellulose formate, solubility, 1345.
  - , cellulose laurate, solubility, 1345.
  - , cellulose naphthenate, solubility, 1345.
  - , cellulose naphthenate-laurate, solubility, 1345.
  - , cellulose naphthenate-oleate-laurate, solubility, 1345.
  - , cellulose pelargonate, solubility, 1345.
  - , cellulose propionate solvent, 523, 1345.
  - , cellulose stearate, solubility, 1345.
  - , cellulose sulfonate, solvent, 364.
  - , cellulose valerate, solubility, 1345.
  - , chloroform with as solvent, 52.
  - , cork with as plastic, 153.
  - , crepe effect using, 2334.
  - , cyclohexanol solvent with, 50.
  - , cyclohexanone solvent with, 50.
  - , dibenzylamine solvent with, 51.
  - , dilution ratio, 1786, 1787.
  - , dimethylaniline solvent with, 51.
  - , diphenyl methane solvent with, 51.

- Ethyl acetate, engine fuel containing, 1910.  
—, ethyl acetoacetate made using, 1020.  
—, ethyl alcohol and, cellulose ether solvent, 97.  
—, ethylbenzene solvent with, 51.  
—, ethylbenzylcellulose solvent, 278, 1345.  
—, ethylbutylcellulose solvent, 278, 1345.  
—, ethylcellulose, crystalline, solvent, 1336.  
—, ethylcellulose combined with, 2410.  
—, ethylcellulose solvent, 19, 178, 278, 1345.  
—, ethylene bromide solvent with, 50.  
—, ethylene chloride solvent with, 51.  
—, ethylene trichloride solvent with, 50.  
—, ethyl iodide solvent with, 50.  
—, flash point, 2060.  
—, furfural and as, cellulose acetate solvent, 580.  
—, guanin insoluble in, 2614.  
—, hydrocellulose acetonitrate solvent, 353.  
—, hydrolysis of, 727.  
—, —, rate of, 650.  
—, ink containing, 2329.  
—, ink, marking, containing, 2330.  
—, lacquer containing, 1572, 2406, 2413, 2420.  
—, leather dressing made using, 868.  
—, lustring with, 2200.  
—, mfr. of, 492, 516, 527, 578, 579, 687, 706, 733, 1068.  
—, methyl acetate solvent with, 50.  
—, methyl acetone solvent with, 50.  
—, methyl alcohol and, cellulose ether solvent, 97.  
—, methylcellulose solvent, 178, 278, 1345.  
—, methylene chloride solvent with, 50.  
—, mother-of-pearl made using, 999.  
—, non-chalking composition containing, 1580.  
—, pearl essence made using, 2619.  
—, physical constants, 1792.  
—, properties, 1915.  
Ethyl acetate, propyl alcohol and, cellulose ether solvent, 97.  
—, propyl benzylcellulose solvent, 278, 1345.  
—, propylcellulose solvent, 278, 1345.  
—, rubber combined with, 2410.  
—, shells, shotgun, waterproofed using, 2414.  
—, starch ether solvent, 1483.  
—, stencil sheet made using, 2488, 2493, 2494, 2497.  
—, sucrose, benzylated solvent, 1517.  
—, trimethylcellulose solvent, 1319.  
—, uses, 1914.  
—, viscosity of, 1357.  
Ethyl acetate-benzene, acetic acid solvent, 782.  
*Ethyl acetic acid, see Butyric acid.*  
Ethylacet-*b*-naphthalid, 1956, 2021.  
Ethylacetoacetate, 1862, 1929, 1930, 1931, 1949, 1992, 1993, 2352.  
—, airplane coated with, 2484.  
—, amines solvent for, 2008.  
—, amyl lactate and, cellulose ether solvent, 93.  
—, amyl oxalate and, cellulose ether solvent, 93.  
—, bibliography, 1931.  
—, butyl lactate and, cellulose ether solvent, 93.  
—, butyl oxalate and, cellulose ether solvent, 93.  
—, camphor substitute, 2051.  
—, celluloid solvent, 890.  
—, cellulose acetate dyed using, 650.  
—, cellulose acetate plastic containing, 532.  
—, cellulose acetate pleating using, 602.  
—, cellulose acetate solvent, 445, 484, 580, 582, 587, 890, 1785.  
—, cellulose acetate with, as plastic, 48.  
—, cellulose ether solvent, 93.  
—, cellulose nitrate with, as plastic, 48.  
—, delustring with, 2189.  
—, ethylcellulose with, as plastic, 48.  
—, ethyl lactate and, cellulose ether solvent, 93.  
—, ethyl oxalate and, cellulose ether solvent, 93.  
—, lacquer containing, 727.  
—, mfr., 492, 1020.

- Ethylacetoacetate, methylcellulose with as plastic, 48.  
—, methyl lactate and, cellulose ether solvent, 93.  
—, methyl oxalate and, cellulose ether solvent, 93.  
—, propyl lactate and, cellulose ether solvent, 93.  
—, propyl oxalate and, cellulose ether solvent, 93.  
—, uses, 1930, 1931.  
Ethyl acetobutyrate, mfr., 492.  
Ethyl acetoglycollate, cellulose acetate plasticizer, 436.  
—, cellulose acetate solubility in, 1042.  
Ethylacetoluid, 2021.  
Ethylacetylacetate, delustring with, 210.  
*Ethylacetylcellulose*, see *Ethylcellulose acetate*.  
*s*-Ethyl-acetylchloranilid, 2021.  
Ethyl acetylglycollate, 1667.  
—, cellulose acetate plasticizer, 1042.  
—, cellulose ether plastifier, 146, 1371.  
Ethyl acetylhydroxyacetate, cellulose acetate softener, 2398.  
—, cellulose acetate solvent, 444.  
Ethyl acetyl-glycerate, 1953.  
Ethyl acetylglycollate, 1941.  
Ethyl acetyl-lactate, 1953.  
Ethyl acetyl naphthoate, cellulose acetate plastifier, 550.  
Ethyl acetyloxyacetate, cellulose acetate plastifier, 508.  
Ethyl acetyl-oxyoleate, 1939.  
Ethyl acetyl-oxystearate, 1939.  
—, camphor substitute, 2051.  
Ethyl acetylpalmitate, 1940.  
Ethyl acetyl-ricinoleate, 1939.  
—, camphor substitute, 2051.  
Ethyl acetylsalicylate, 1963, 2027.  
—, camphor substitute, 2051.  
—, cellulose acetate plastifier, 550.  
Ethyl acetyl-tartrate, 1953.  
*as*-Ethyl-acetyltetrachloranilid, 2021.  
Ethyl acetyltoluidine, cellulose acetate plasticizer, 375.  
Ethyl acetyltrichloranilid, 2021.  
Ethyl acetyltrichloronitranilid, 2022.  
Ethyl acrylate, 1953, 1954.  
—, cellulose acetate solvent, 507.  
—, cellulose acetate spun with, 2084.  
Ethyl acrylate, cellulose ester combined with, 208.  
—, cellulose ether combined with, 208.  
—, glass, laminated, made using, 2589.  
—, polymerized, 208, 1994.  
Ethyl adipate, 1939, 1953, 1989, 2646.  
—, plastic containing, 2546.  
Ethyl alcohol, 1832, 1849, 1982, 1993.  
—, acetaldehyde made from, 580, 586, 684.  
—, acetic acid recovered by, 644.  
—, acetylacetone as solvent with, 53.  
—, acetylene solvent, 625.  
—, acetyl-*p*-phenetidine as solvent with, 54.  
—, alkylcellulose increased by, 1346.  
—, amines solvent for, 2010.  
—, amyl benzoate with as solvent, 52.  
—, amyl butyrate as solvent with, 54.  
—, amyl carbonate solvent with, 54.  
—, amyl formate as solvent with, 54.  
—, amyl propionate as solvent with, 53.  
—, amyl salicylate with as solvent, 52.  
—, aniline acetate as solvent with, 54.  
—, azeotropic mixtures with, 1833.  
—, benzal bromide as solvent with, 54.  
—, benzal chloride as solvent with, 54.  
—, benzaldehyde solvent with, 50.  
—, benzanilid as solvent with, 54.  
—, benzene and, cellulose ether solvent, 1802.  
—, benzotribromide as solvent with, 54.  
—, benzotrichloride as solvent with, 54.  
—, benzyl acetate and, cellulose ether solvent, 99.  
—, benzyl bromide as solvent with, 54.  
—, benzyl chloride as solvent with, 54, 1587.  
—, benzyloethyl ether solvent with, 51.

- Ethyl alcohol, *mono*-brombenzene as solvent with, 53.  
—, *mono*-bromtoluene as solvent with, 54.  
—, butyl acetate with, cellulose ether solvent, 97.  
—, *iso*-butylbenzoate with, as solvent, 52.  
—, *n*-butyl benzoate with as solvent, 52.  
—, *n*-butylbenzyl ether solvent with, 52.  
—, butyl butyrate as solvent with, 54.  
—, butyl butyrate with, cellulose ether solvent, 97.  
—, butyl carbonate as solvent with, 54.  
—, *n*-butyl-*o*-cresyl ether solvent with, 51.  
—, butyl formate as solvent with, 54.  
—, *n*-butylphenyl ether solvent with, 52.  
—, butyl propionate as solvent with, 53.  
—, butyl propionate with, cellulose ether solvent, 97.  
—, *iso*-butyl salicylate with, as solvent, 52.  
—, *n*-butyl salicylate with, as solvent, 52.  
—, butyl tartrate solvent with, 50.  
—, carbon tetrachloride and, cellulose ether solvent, 99.  
—, carvone as solvent with, 53.  
—, catechol diacetate as solvent with, 54.  
—, catechol monoacetate as solvent with, 54.  
—, cellulose acetate delustred by, 776.  
—, cellulose acetate non-solvent, 324.  
—, cellulose acetate precipitant, 811.  
—, cellulose acetate solvent, 1691, 1818, 1843, 2435.  
—, cellulose acetate stabilizer, 734.  
—, cellulose acetate stretch spinning in bath of, 785.  
—, cellulose acetate swelling agent, 501, 811.  
—, cellulose ester coagulated by, 133.  
—, cellulose ester lacquer containing, 486.  
Ethyl alcohol, cellulose ether coagulated by, 133.  
—, cellulose ether dehydrated using, 2337.  
—, cellulose ether dyed level in presence of, 104.  
—, cellulose ether dyeing using, 2237.  
—, cellulose ether non-solvent, 244, 1452, 2077, 2089, 2091, 2097.  
—, cellulose ether softener, 2153, 2183, 2215, 2216, 2336.  
—, cellulose ether solvent, 50, 2102.  
—, cellulose ether swelling agent, 110, 253, 264, 287, 2221.  
—, cellulose nitrate precipitant, 811.  
—, chlorbenzene solvent with, 51.  
—, *mono*-chlorbenzene solvent with, 51.  
—, coating compounds containing, 1007.  
—, crepe effect using, 2334.  
—, cyclohexanol solvent with, 50.  
—, cyclohexanone solvent with, 50.  
—, damask effect, permanent, produced with, 2340.  
—, diamyl ketone solvent with, 52.  
—, dibenzylamine solvent with, 51.  
—, dibrombenzene as solvent with, 53.  
—, dibromtoluene as solvent with, 54.  
—, dibutyl ketone solvent with, 52.  
—, diethyl carbanilid as solvent with, 54.  
—, diethyl ketone solvent with, 52.  
—, *p*-dimethylaminobenzanilid as solvent with, 54.  
—, *p*-dimethylaminophenyl acetate as solvent with, 54.  
—, dimethylaniline solvent with, 51.  
—, diphenyl ether solvent with, 51.  
—, diphenylethylene diamine as solvent with, 54.  
—, diphenyl methane solvent with, 51.  
—, dipropyl ketone solvent, 52.  
—, di-*isopropyl* ketone solvent with, 52.  
—, dispersing agent, 2213.  
—, epichlorhydrin as solvent with, 53.  
—, ethyl acetate made using, 687.  
—, ethyl acetate with, cellulose ether solvent, 97.  
—, ethylbenzene solvent with, 51.

- Ethyl alcohol, ethylbenzoate and, cellulose ether solvent, 99.
- , ethylbenzylaniline solvent with, 51.
- , ethyl butyrate with, cellulose ether solvent with, 97.
- , ethyl carbonate as solvent with, 54.
- , ethylcellulose lacquer containing, 2411.
- , ethylcellulose solvent, 19.
- , ethylene bromide solvent with, 50.
- , ethylene chlorbromide and, cellulose ether solvent, 99.
- , ethylene chloride solvent with, 51.
- , ethylene trichloride solvent with, 50.
- , ethyl formate as solvent with, 54.
- , ethyl formate from, 457.
- , ethyl iodide solvent with, 50.
- , ethyl lactate as solvent with, 53.
- , ethyl monochloracetate made from, 482.
- , ethyl phthalate with as solvent, 52.
- , ethyl propionate as solvent with, 53.
- , ethyl propionate from, 457.
- , ethyl propionate with, cellulose ether solvent, 97.
- , ethyl succinate as solvent with, 53.
- , filament, artificial, made using, 1001.
- , flash point, 2060.
- , fufural solvent with, 51.
- , hexylacetate as solvent with, 53.
- , hollow filaments produced using, 2365.
- , hydroxyquinol diacetate as solvent with, 54.
- , hydroxyquinol monoacetate as solvent with, 54.
- , hydroxyquinone diacetate as solvent with, 54.
- , hydroxyquinone monoacetate as solvent with, 54.
- , insulator containing, 2442.
- , lacquer containing, 2392, 2395, 2406, 2413, 2428.
- , mfr. of, 558, 863, 866.
- , methylacetanilid as solvent with, 54.
- , methyl acetate solvent with, 50.
- Ethyl alcohol, methyl acetate with, cellulose ether solvent, 97, 99.
- , methyl acetone solvent with, 50.
- , methyl amyl ketone solvent with, 52.
- , methyl benzoate solvent with, 51.
- , methyl butyl ketone solvent with, 52.
- , methyl butyrate with, cellulose ether solvent, 97.
- , methyl carbonate as solvent with, 54.
- , methyl-*o*-cresyl ether solvent with, 52.
- , methylene chloride solvent with, 50.
- , methylethyl ketone solvent with, 52.
- , methyl formate as solvent with, 54.
- , methyl propionate as solvent with, 53.
- , methyl propionate with, cellulose ether solvent, 97.
- , methyl propyl ketone solvent with, 52.
- , methyl salicylate solvent with, 51.
- , pentachlorethane solvent with, 51.
- , perchlorethylene solvent with, 51.
- , phenol solvent with, 51.
- , phenyl ethers solvent with, 51.
- , phenylethylether solvent with, 51.
- , phenylmethylether solvent with, 51.
- , phenylphthalate with, as solvent, 52.
- , phenylpropyl alcohol solvent with, 51.
- , phenylurea as solvent with, 54.
- , plastic made containing, 2563.
- , plastic of cellulose acetate and, 1024.
- , polyhydroxybenzene acetates as solvent with, 54.
- , printing, intaglio, made using, 2551.
- , propyl acetate with, cellulose ether solvent, 97.
- , propyl butyrate as solvent with, 54.
- , propyl butyrate with, cellulose ether solvent, 97.



- Ethyl alcohol, propyl carbonate as solvent with, 54.  
—, propyl formate as solvent with, 54.  
—, propyl propionate as solvent with, 53.  
—, propyl propionate with, cellulose ether solvent, 97.  
—, pyrogallol diacetate as solvent with, 54.  
—, pyrogallol monoacetate as solvent with, 54.  
—, resorcinol diacetate solvent with, 51, 54.  
—, resorcinol monoacetate as solvent with, 54.  
—, solubility organic compounds in, 2007.  
—, solvent power of, 595.  
—, starch ether solvent, 1483.  
—, stencil sheet containing, 686, 2488.  
—, tetrachlorethane and, cellulose ether solvent, 97.  
—, trimethylcellulose solvent, 1315.  
—, viscosity cellulose acetate dissolved in, 595.  
—, wood oil containing, 296.  
—, xylene solvent with, 51.  
—, *see also Ethanol*.  
Ethyl alcohol ether, ethylcellulose solvent, 19.  
Ethyl amidobenzoate, 1962.  
Ethyl amidocellulose, 1753.  
Ethyl amido-oxalate, 1948.  
Ethyl amidophenylcarbonate, 1057.  
Ethylamine, 1749, 2006.  
—, cellulose etherified using, 273.  
—, cellulose ether lacquer containing, 155.  
—, ethyl chloride in mfr., 1273.  
—, lacquer containing, 2418.  
*mono*-Ethylamine, cellulose acetate solvent, 891.  
—, cellulose nitrate solvent, 891.  
—, *see also Monoethylamine*.  
1-Ethyl-amino-4-anilinoanthraquinone, cellulose ester dyed using, 299.  
—, cellulose ether dyed using, 299.  
Ethyl aminobenzoate, lacquer containing, 2416.  
Ethyl *p*-aminobenzoate, benzylcellulose stabilizer, 1565.  
—, ethylcellulose stabilizer, 1565.  
—, stabilizer, 1565.  
—, *see also Anaesthesine*.  
Ethylaminocellulose, 123, 1665.  
Ethylaminocellulose acetate, 1398.  
Ethylaminocellulose toluene-4-sulfonate, mfr. of, 123.  
2-Ethylamino-5-naphthol-7-sulfonic acid, cellulose acetate dyed using, 845.  
Ethyl amygdalinate, 1966.  
Ethylamylcellulose, mfr. of, 238, 1338, 1606.  
Ethylisoamyl ether, 1869.  
Ethyl amyl ketone, 1877.  
Ethylisoamyl sulfone, 39, 2001.  
—, cellulose acetate solvent, 509.  
—, cellulose nitrate solvent, 509.  
Ethylanilid cresoxyacetate, 2021.  
Ethylanilid phenoxyacetate, cellulose acetate solvent, 507.  
Ethyl anilidoacetate, 1893.  
—, *see also Ethylphenylglycine*.  
Ethylaniline, 2014, 2015.  
Ethyl anisate, 1966.  
Ethylarabinside, 2, 1508.  
*Ethylation*, *see Cellulose*.  
Ethyl azeleate, 1939.  
Ethylbenzene, 1806, 1809, 1810, 1913.  
—, bromo, cellulose ether inflammability reduced by, 182.  
—, cellulose ether solvent, 51, 1784, 1804.  
—, flash point, 2060.  
Ethylbenzene sulfonamide, hollow filaments produced using, 2365.  
Ethylbenzenesulfone, cellulose acetate plasticizer, 464.  
—, cellulose ether softener, 80.  
Ethylbenzenesulfonic acid, cellulose ether plasticizer, 174.  
Ethyl benzoate, 1315, 1769, 1869, 1870, 1927, 1931, 1944, 1946, 1947, 1952, 1957, 1958, 1962, 2026.  
—, cellulose acetate solvent, 324, 889, 1818, 1819.  
—, cellulose ether solvent, 1841.  
—, cellulose solvent, 1330.  
—, delustring with, 210, 2189.  
—, ethyl alcohol and, cellulose ether solvent, 99.  
—, ethylcellulose, crystalline, solvent, 1336.  
—, ethylcellulose solvent, 19.  
—, methyl alcohol and, cellulose ether solvent, 99.  
—, paint containing, 825, 2544.  
—, printing ink containing, 2329.  
—, rubber solvent, 889.

- Ethyl benzoate, starch ether solvent, 1483.  
—, trimethylcellulose, solvent, 1315.  
—, triphenyl phosphate and as solvent, 1902.  
Ethyl benzoate-alcohol, ethylcellulose xanthanilide solvent, 1644.  
Ethylbenzoin, 2.  
*s*-Ethylbenzoyl-acetylchloranilid, 2021.  
Ethyl benzoyl-glycerate, 1953.  
Ethyl benzoylglycollate, 1966.  
Ethyl benzoyl-lactate, 1953.  
Ethyl benzoyl naphthate, cellulose acetate plastifier, 550.  
Ethyl benzoyl-oxyoleate, 1939.  
Ethyl benzoyl-oxytsearate, 1939.  
Ethyl benzoyl-ricinoleate, 1939.  
—, camphor substitute, 2051.  
Ethyl benzoyl salicylate, 1963, 2027.  
—, camphor substitute, 2051.  
—, cellulose acetate plastifier, 550.  
Ethyl benzoyl-tartrate, 1953.  
Ethylbenzoyl-*o*-toluidine, 2017.  
—, cellulose acetate plastifier, 383.  
*mono*Ethylbenzyl-1.5-acetylcellulose, mfr. of, 237.  
Ethylbenzyl aniline, 1913.  
—, cellulose dispersed in, 280.  
—, cellulose ether dyed using, 275, 2257.  
—, cellulose ether solvent, 51.  
Ethylbenzylanilinesulfonic acid, cellulose acetate dyed using, 693.  
—, cellulose ether dyed using, 2250.  
Ethylbenzylcellulose, 1536, 1552, 1591, 1609, 2624.  
—, acetone solubility of, 278, 1345.  
—, alcohol solubility of, 278, 1345.  
—, benzene solubility of, 278, 1345.  
—, benzene as solvent for, 1802.  
—, benzine solubility of, 278, 1345.  
—, butyl phthalate plasticizer for, 236.  
—, butyl stearate plasticizer for, 236.  
—, cellulose nitrate and, 1594.  
—, comminuting, 237.  
—, delustring with, 1593.  
—, dibutyl phthalate plasticizer for, 236.  
—, ether solubility of, 278, 1345.  
—, ethyl acetate solubility of, 278, 1345.  
—, film of, 241.  
Ethylbenzylcellulose, filtering, 2098.  
—, lacquer containing, 2427, 2428.  
—, mfr. of, 39, 190, 237, 286, 287, 1592, 1594, 1604, 1610, 1611, 1624.  
—, plastic made from, 2557.  
—, powdering, 237, 1567.  
—, sensitizing, 282.  
—, sodium butyl-naphthalenesulfonate plasticizer for, 236.  
—, solubility, 1593.  
—, stretching of, 1342.  
—, tearing strength of, 1342.  
—, water solubility of, 278, 1345.  
—, wood cellulose for mfr. of, 290.  
Ethylbenzylcellulose acetate, 1609.  
—, mfr. of, 237, 287, 1592, 1601.  
Ethylbenzylcellulose crotonate, 2625.  
Ethylbenzylcellulose formate, mfr. of, 257, 1600.  
Ethylbenzyl crotonate, 2625.  
Ethylbenzylcrotylcellulose, 2625.  
Ethylbenzyl ether, 1871, 1872.  
*Ethylbenzyl-lignin*, see *Benzyl-ethyl-lignin*.  
Ethyl benzyloxystearate, camphor substitute, 2051.  
Ethylbenzyl-*m*-toluidine, cellulose acetate dyed using, 675.  
Ethyl borate, 1909.  
Ethylbornyl ether, 1872.  
Ethylbrombenzylcellulose, manufacture of, 237, 287, 1592.  
Ethylbrombenzylcellulose acetate, manufacture of, 237, 1592.  
Ethylbrombenzyl ether, 1871.  
Ethyl bromide, 2, 87, 124, 239, 296, 1815.  
—, cellulose alkylated with, 293.  
—, cellulose ethylated by, 20.  
—, flax alkylated with, 293.  
—, hemp alkylated with, 293.  
—, jute alkylated with, 293.  
—, linen alkylated with, 293.  
—, manufacture, 1275.  
—, properties, 1275.  
—, solubility, 1277.  
Ethyl brom-malonate, 1949.  
Ethyl brom-myristate, 1941.  
Ethyl brom-palmitate, 1941.  
Ethyl  $\alpha$ -brompropionate, 1933.  
—, cellulose ester solvent, 267.  
—, cellulose ether solvent, 267.  
Ethyl brom-stearate, 1941.  
Ethylbutylanilid, 2026.  
*mono*Ethylbutylbenzene, cellulose ester plasticizer, 303.

- mono*Ethylbutylbenzene, cellulose ether plasticizer, 303.
- Ethyl-*n*-butylcarbonate, flash point, 2060.
- Ethylbutylcellulose, acetone solubility of, 278, 1345.
- , alcohol solubility of, 278, 1345.
  - , benzene solubility of, 278, 1345.
  - , benzine solubility of, 278, 1345.
  - , butyl acetate with for lacquer manufacture, 2426.
  - , butyl alcohol with for lacquer manufacture, 2426.
  - , butylglycol with for lacquer manufacture, 2426.
  - , butyl phthalate with for lacquer manufacture, 2426.
  - , butyl phthalate plasticizer for, 236.
  - , butylstearate plasticizer for, 236.
  - , comminuting, 237.
  - , cyclohexanol with for lacquer manufacture, 2426.
  - , dibutyl phthalate plasticizer for, 236.
  - , ether solubility of, 278, 1345.
  - , ethyl acetate solubility of, 278, 1345.
  - , ethylglycol with for lacquer manufacture, 2426.
  - , glyceryl abietate with, 1576.
  - , glyceryl abietate with for lacquer manufacture, 2426.
  - , glyceryl abietate lacquer with, 234.
  - , glyceryl chlorophthalate with, 1576.
  - , glyceryl chlorophthalate lacquer with, 234.
  - , glyceryl diglycollate with, 1576.
  - , glyceryl diglycollate lacquer with, 234.
  - , glyceryl laurate with, 1576.
  - , glyceryl laurate lacquer with, 234.
  - , glyceryl linoleate with, 1576.
  - , glyceryl linoleate lacquer with, 234.
  - , glyceryl maleate with, 1576.
  - , glyceryl maleate lacquer with, 234.
  - , glyceryl naphthenate with, 1576.
  - , glyceryl naphthenate lacquer with, 234.
  - , glyceryl phthalate with, 1576.
- Ethylbutylcellulose, glyceryl phthalate lacquer with, 234.
- , glyceryl ricinoleate with, 1576.
  - , glyceryl ricinoleate lacquer with, 234.
  - , glyceryl salicylacetate with, 1576.
  - , glyceryl salicylacetate lacquer with, 234.
  - , glyceryl succinate with, 1576.
  - , glyceryl succinate lacquer with, 234.
  - , hydroaromatic benzene with for lacquer manufacture, 2426.
  - , iron(ic) oxide with for lacquer manufacture, 2426.
  - , lacquer containing, 288, 2426.
  - , manufacture of, 238, 1338, 1606, 1607, 1610.
  - , methylglycol acetate with for lacquer manufacture, 2426.
  - , pentaerythritol abietate with, 1576.
  - , pentaerythritol abietate lacquer with, 234.
  - , pentaerythritol chlorophthalate with, 1576.
  - , pentaerythritol chlorophthalate lacquer with, 234.
  - , pentaerythritol diglycollate with, 1576.
  - , pentaerythritol diglycollate lacquer with, 234.
  - , pentaerythritol laurate with, 1576.
  - , pentaerythritol laurate lacquer with, 234.
  - , pentaerythritol linoleate with, 1576.
  - , pentaerythritol linoleate lacquer with, 234.
  - , pentaerythritol maleate with, 1576.
  - , pentaerythritol maleate lacquer with, 234.
  - , pentaerythritol naphthenate with, 1576.
  - , pentaerythritol naphthenate lacquer with, 234.
  - , pentaerythritol phthalate with, 1576.
  - , pentaerythritol phthalate lacquer with, 234.
  - , pentaerythritol ricinoleate with, 1576.
  - , pentaerythritol ricinoleate lacquer with, 234.

- Ethylbutylcellulose, pentaerythritol salicylacetate with, 1576.  
—, pentaerythritol salicylate lacquer with, 234.  
—, pentaerythritol succinate with, 1576.  
—, pentaerythritol succinate lacquer with, 234.  
—, powdering, 237, 1567.  
—, sanga oil with for lacquer manufacture, 2426.  
—, sodium butylnaphthalenesulfonate plasticizer for, 236.  
—, sorbitol abietate with, 1576.  
—, sorbitol abietate lacquer with, 234.  
—, sorbitol chlorophthalate with, 1576.  
—, sorbitol chlorophthalate lacquer with, 234.  
—, sorbitol diglycollate with, 1576.  
—, sorbitol diglycollate lacquer with, 234.  
—, sorbitol laurate with, 1576.  
—, sorbitol laurate lacquer with, 234.  
—, sorbitol linoleate with, 1576.  
—, sorbitol linoleate lacquer with, 234.  
—, sorbitol maleate with, 1576.  
—, sorbitol maleate lacquer with, 234.  
—, sorbitol naphthenate with, 1576.  
—, sorbitol naphthenate lacquer with, 234.  
—, sorbitol phthalate with, 1576.  
—, sorbitol phthalate lacquer with, 234.  
—, sorbitol ricinoleate with, 1576.  
—, sorbitol ricinoleate lacquer with, 234.  
—, sorbitol salicylacetate with, 1576.  
—, sorbitol salicylacetate lacquer with, 234.  
—, sorbitol succinate with, 1576.  
—, sorbitol succinate lacquer with, 234.  
—, stretching of, 238, 1342.  
—, tearing strength of, 1342.  
—, tricresyl phosphate with for lacquer manufacture, 2426.  
—, turpentine oil with for lacquer manufacture, 2426.  
—, water solubility of, 278, 1345.  
—, zinc oxide with for lacquer manufacture, 2426.
- Ethylbutylene glycol, cellulose acetate plastifier, 620.  
Ethylbutylene glycol ether, cellulose acetate solvent, 665.  
Ethylisobutyl ether, 1869.  
Ethylbutyl ketone, 1877, 1883.  
Ethylisobutyl malonate, 1948.  
Ethyl-*n*-butyl malonate, 1948.  
*Ethylisobutyl-oxide*, see *Ethylisobutyl ether*.  
Ethyl butyl phthalate, cellulose acetate solvent, 705.  
—, cellulose nitrate solvent, 705.  
Ethylbutyl *o*-phthalate, 1978.  
Ethyl-*n*-butyl sulfate, properties, 1290.  
Ethyl butyrate, 70, 1869, 1932, 1935, 1936, 1944, 1947, 1957, 1962, 2001, 2027.  
—, benzylcellulose solvent, 1556.  
—, cellulose acetate solvent, 581.  
—, engine fuel containing, 1910.  
—, ethyl alcohol and, cellulose ether solvent, 97.  
—, ethylcellulose solvent, 95.  
—, lacquer containing, 2413.  
—, methyl alcohol and, cellulose ether solvent, 97.  
—, propyl alcohol and, cellulose ether solvent, 97.  
Ethyl *n*-butyrate, 1935.  
*Ethyl capronate*, see *Ethyl caproate*.  
Ethyl carbamate, 1955.  
—, cellulose acetate inflammability reduced by, 942.  
—, cellulose acetate plastifier, 1008.  
—, see also *Urethane*.  
Ethyl carbanilate, 1956, 1957.  
—, see also *Euphorin*.  
*N*-Ethylcarbazole, benzylcellulose combined with, 282.  
—, benzylcellulose stabilizer, 1574.  
—, butylcellulose combined with, 282, 1341.  
—, butylcellulose stabilizer, 1574.  
—, coating containing, 282.  
—, film containing, 282.  
—, lacquer containing, 282, 2416.  
—, stabilizer, 1574.  
Ethyl carbitol, 1077.  
*Ethyl carbolate*, see *Phenetol*.  
Ethyl carbonate, 1850, 1906, 1907, 1971.  
—, amines solvent for, 2010.  
—, cellulose ether solvent, 54.

- Ethyl carbonic acid*, see *Propionic acid*.
- Ethyl carbylamine*, see *Ethyl isocyanide*.
- Ethylcellulose, 3, 38, 152, 1430, 1652, 1653, 1654, 1655, 1658, 1661, 1662, 1665, 1666, 1668, 1674, 2028, 2029, 2033, 2040, 2041, 2446, 2622, 2628.
- , acaroid compound with, 175.
  - , acaroid with, as lacquer, 178.
  - , acetic acid, glacial, solvent for, 1226.
  - , acetolysis of, 42, 72, 1367, 1368.
  - , acetone-furfural combined with, 174, 1364.
  - , acetone for reducing viscosity of, 224.
  - , acetone solvent for, 134, 278, 1345, 1879.
  - , acetone used in lacquer, 2406.
  - , acetylated, 73, 114.
  - , acetyl bromide action on, 1111.
  - , acetyl-4-brom-methylanilid combined with, 227.
  - , acetyl-2.4-dibromanilid combined with, 227.
  - , acetyl-3.4-dibromanilid combined with, 227.
  - , acetyl-2.4.5-tribromanilid combined with, 227.
  - , acetyl-2.4.6-tribromanilid combined with, 227.
  - , acetyl-1.3.6-tribrom-2-naphthalid combined with, 227.
  - , acetyl-2.4.6-tribrom-methylanilid combined with, 227.
  - , adhesive made using, 294, 2598.
  - , adipic ester plastic with, 232.
  - , airplane coated with, 2484.
  - , alcohol-benzene solvent for, 1226.
  - , alcohol solubility of, 278, 1226, 1345.
  - , alizarine Astrol B dye for, 62.
  - , aluminum salt for loading, 137.
  - , aluminum thiocyanate for mordanting, 113.
  - , ammonium thiocyanate for mordanting, 113.
  - , amyl acetate plasticizer for, 188.
  - , amyl alcohol solvent with nitromethane, 124.
  - , Aniline Black dye for, 62.
  - , aniline-furfural combined with, 1364.
- Ethylcellulose, anthraquinonyl-amine ester for dyeing, 169.
- , artificial resin plastic with, 173.
  - , artificial resins softened by, 194.
  - , azo Yellow 3 G dye for, 62.
  - , basic colors for dyeing, 2234.
  - , benzene combined with, 2410.
  - , benzene for reducing viscosity of, 224.
  - , benzene solubility of, 278, 1226, 1345.
  - , benzene-soluble, use, 215.
  - , benzene used in lacquer, 2406.
  - , benzene solubility of, 278, 1345.
  - , benzoyl-2.4.6-tribromanilid combined with, 227.
  - , benzyl acetate solvent for, 1928.
  - , benzyl alcohol plasticizer for, 243.
  - , benzyl alcohol solvent for, 178, 1862.
  - , benzylcresyl ether plastic of, with, 87.
  - , binary solvents for, 2411.
  - , bismuth salt for loading, 137.
  - , bitumen as plasticizer for, 96.
  - , bleaching, 1461.
  - , board of, manufacture of, 154.
  - , borneol plasticizer for, 243.
  - , bromacetylethyl glucose from, 72.
  - , bromine in manufacture of, 1799.
  - , bronzes colored for, 2477.
  - , butyl acetate combined with, 2410.
  - , butyl acetoacetate with, as plastic, 48.
  - , butyl alcohol solvent for, 1852.
  - , butyl alcohol solvent with nitromethane, 124.
  - , butyl phthalate combined with, 2410.
  - , butyl phthalate plasticizer for, 236.
  - , *iso*-butyl phthalate plasticizer for, 243.
  - , butyl stearate plasticizer for, 236.
  - , butyl tartrate plasticizer of, 188.
  - , cable, insulating, made with, 86.
  - , cable coated with, 128.
  - , camphor with, 60.
  - , camphor plasticizer of, 188.
  - , camphor substitute with, 60.
  - , capsule made using, 2523.

- Ethylcellulose, carbon bisulfide solvent for, 1797.
- , celluloids made with, 86.
  - , celluloid substitute from, 178.
  - , cellulose ether dyed on, 2307.
  - , cellulose ether lacquer containing, 188.
  - , chloretone with, 1581.
  - , chloretone as solvent for, 58, 141.
  - , chloroform for reducing viscosity of, 224.
  - , chloroform solvent for, 1226.
  - , chromium thiocyanate for mordanting, 113.
  - , cigarette tip containing, 2431, 2432.
  - , cigarette tip wrapped using, 296.
  - , cloth coated with, 141, 211.
  - , coating composition containing, 174, 2546.
  - , coating containing, 201.
  - , cobalt linoleate combined with, 2410.
  - , cobalt linoleate and as coating, 222.
  - , colloding, 222.
  - , colophony compound with, 175.
  - , colophony glyceride lacquer with, 234.
  - , combustion analysis of, 20.
  - , comminuting, 237, 1375.
  - , conditioning, 2143.
  - , conductors, electric, insulator for, made using, 2442.
  - , confectionery coated with, 159.
  - , copal compound with, 175.
  - , copal plasticizer of, 188.
  - , cotton impregnated with, 235, 236.
  - , crayon obtained from, 2423.
  - , cresol emulsified by, 2448.
  - , cresol formaldehyde condensate combined with, 152.
  - , cumar solvent of, 293.
  - , cutting, 134.
  - , dammar compound with, 175.
  - , dammar with as lacquer, 178.
  - , decolorizing, 1461.
  - , decorative effect with, 164.
  - , degrading, 246.
  - , delusted, restoring luster, 135.
  - , delustring, 134.
  - , dental plate made using, 2539.
  - , depolymerizing, 246, 1368, 1369.
  - , desizing, 2143.
- Ethylcellulose, diacetyl-3.5-dibrom-2-toluid combined with, 227.
- , diacetyl-2.4.6-tribromanilid combined with, 227.
  - , dibutyl phthalate as solvent for, 124.
  - , dibutyl phthalate plasticizer for, 236.
  - , dibutyl tartrate combined with, 1364.
  - , dibutyl tartrate for reducing viscosity of, 224.
  - , dichlorethane solvent for, 1816.
  - , diethylene glycol monoethyl-ether solvent of, 293.
  - , diethyl phthalate combined with, 1364.
  - , diethyl phthalate for reducing viscosity of, 224.
  - , diethyl phthalate plastifier for, 102.
  - , diethylphthalate solvent for, 134.
  - , dinitrodiphenylethane plasticizer of, 188.
  - , dioxane as solvent for, 124, 1876.
  - , diphenol-propane-aldehyde combined with, 1364.
  - , diphenylethane plasticizer of, 188.
  - , diphenylol-aldehyde combined with, 174.
  - , diphenylol-propane-ketone combined with, 174.
  - , dispersing, 192.
  - , dissolving, 284.
  - , ditolyethane plasticizer of, 188.
  - , dixylyethane plasticizer of, 188.
  - , dull finish lacquer containing, 2418.
  - , dyeing, 127, 137, 143, 144, 265, 275, 285, 2223, 2225, 2228, 2275, 2642.
  - , —, diethyleneglycol monoethyl ether used in, 178.
  - , —, diethyleneglycol used in, 178.
  - , —, ethyleneglycol monoethyl ether used, 178.
  - , —, ethyleneglycol used in, 178.
  - , dyeing with basic colors, 2234.
  - , elasticity, increasing, 258.
  - , electrodeposition of, 103, 112, 1376.
  - , embossed knitted fabrics of, 2356.

- Ethylcellulose, emulsifying, 1376, 1377, 1378, 2451.  
—, emulsion containing, 112, 1569, 1570, 2456, 2457, 2466.  
—, esterifying, 288.  
—, etherifying, 1419.  
—, ether solubility of, 278, 1345.  
—, ether used in lacquer, 2406.  
—, ethyl abietate solvent of, 293.  
—, ethyl acetate combined with, 2410.  
—, ethyl acetate solubility of, 278, 1345.  
—, ethyl acetate solvent for, 178.  
—, ethyl acetate used in lacquer, 2406.  
—, ethyl acetoacetate with as plastic, 48.  
—, ethyl alcohol solvent with nitromethane, 124.  
—, ethyl alcohol used in lacquer, 2406.  
—, ethylene chlorbromide as solvent for, 1823.  
—, ethyleneglycol diacetate plasticizer of, 188.  
—, ethyleneglycol monoethyl ether solvent for, 1851.  
—, ethylglycol solvent for, 1851.  
—, ethyl lactate solvent for, 178, 293.  
—, fabric, dyeing, 637.  
—, —, meshed, coated with, 2518.  
—, —, open work, mfr., 304.  
—, —, printing, 637, 2328.  
—, —, stencilling, 637.  
—, —, stiffening, 2353.  
—, fabric coated using, 2484, 2485, 2486.  
—, fabric protected with, 297.  
—, fenchol plasticizer for, 243.  
—, fiber made using, 2523.  
—, filaments, hollow, of, 2367.  
—, filaments from, 49.  
—, —, mfr. of, 269, 2077, 2078.  
—, filler containing, 2480.  
—, film of, mfr., 183, 225, 241, 2509, 2513, 2515, 2516, 2518, 2519, 2522, 2523, 2526, 2528, 2529.  
—, film, attaching, 2391.  
—, —, colored, made from, 2519.  
—, —, matt finish on, 2195.  
—, —, photographic, of, 92.  
—, —, thickness of, 159, 1367.  
—, —, thin, mfr. of, 223.  
—, filter made using, 2460, 2461.  
—, filtering, 2098.  
Ethylcellulose, fireproofing, 107.  
—, flexibility, increasing, 1333.  
—, foils made using, 2523.  
—, formaldehyde combined with, 266.  
—, formic acid solvent for, 1891.  
—, furfural solvent for, 1996.  
—, furyl alcohol plasticizer of, 188.  
—, gasproofing, 107, 110.  
—, glass, laminated, made with, 164, 294, 2590.  
—, —, window, made using, 2553.  
—, glass reinforced by, 144.  
—, glycerol and for metal coating, 145.  
—, glyceryl abietate with, 1576.  
—, glyceryl abietate lacquer with, 234.  
—, glyceryl chlorphthalate with, 1576.  
—, glyceryl chlorphthalate lacquer with, 234.  
—, glyceryl diglycollate with, 1576.  
—, glyceryl diglycollate lacquer with, 234.  
—, glyceryl dilinoleate lacquer with, 234.  
—, glyceryl diricinoleate lacquer with, 234.  
—, glyceryl laurate with, 1576.  
—, glyceryl laurate lacquer with, 234.  
—, glyceryl linoleate with, 1576.  
—, glyceryl linoleate lacquer with, 234.  
—, glyceryl maleate with, 1576.  
—, glyceryl maleate lacquer with, 234.  
—, glyceryl mono-linoleate lacquer with, 234.  
—, glyceryl monoricinoleate lacquer with, 234.  
—, glyceryl naphthenate with, 1576.  
—, glyceryl naphthenate lacquer with, 234.  
—, glyceryl phthalate with, 1576.  
—, glyceryl phthalate lacquer with, 234.  
—, glyceryl ricinoleate with, 1576.  
—, glyceryl ricinoleate lacquer with, 234.  
—, glyceryl salicylacetate with, 1576.  
—, glyceryl salicylacetate lacquer with, 234.  
—, glyceryl succinate with, 1576.

- Ethylcellulose, glyceryl succinate lacquer with, 234.
- , graphite combined with, 2543.
- , gun powder made using, 2470.
- , gun powder coated with, 158.
- , horn, artificial, made using, 297, 2607.
- , 1-*b*-hydroxyethylamino-4-aminoanthraquinone sulfate for dyeing, 169.
- , 1-*b*-hydroxy-ethylaminoanthraquinone sulfate for dyeing, 169.
- , 1-*b*-hydroxyethylamino-2-brom-4-aminoanthraquinone sulfate for dyeing, 169.
- , 1-*b*-hydroxyethylamino-4-hydroxyanthraquinone sulfate for dyeing, 169.
- , 1-*b*-hydroxyethylamino-4-methylaminoanthraquinone sulfate for dyeing, 169.
- , 1-*b*-hydroxyethylamino-2-methylantraquinone sulfate for dyeing, 169.
- , *b*-hydroxyethyl linoleate lacquer with, 234.
- , inflammability, 1373.
- , —, reducing, 304.
- , ink, copying, stains removed by, 2552.
- , insolubilizing, 2422, 2467, 2468, 2469, 2577.
- , insulating with, 176, 2441.
- , insulator containing, 2442.
- , —, mfr., 2443.
- , iron thiocyanate for mordanting, 113.
- , irradiation, 1342, 1565.
- , isoborneol plasticizer for, 243.
- , jelling, preventing, 1349.
- , kauri compound with, 175.
- , kauri with as lacquer, 178.
- , lacquer containing, 53, 136, 178, 300, 1572, 1590, 2405, 2408, 2423, 2424, 2426, 2427, 2428.
- , lacquer, brush, made using, 2418.
- , —, dipping, made using, 2418.
- , —, spraying, made using, 2418.
- , —, low viscosity, 2406.
- , —, mfr. of, 2407.
- , latex, rubber, combined with, 2543.
- , lead chromate dispersed by, 2479.
- , lead nitrate dispersed by, 2479.
- Ethylcellulose, leather, artificial, made with, 86.
- , —, —, matt finish on, 2195.
- , leather coated with, 211.
- , leather protected with, 297.
- , leather substitute made using, 2636.
- , linoxyn with as lacquer, 193.
- , linseed oil combined with, 2410.
- , lithopone combined with, 2410.
- , livering, preventing, 1349.
- , loading, 137.
- , low viscosity, 174.
- , luminous, 1372.
- , Magenta dye for, 62.
- , Malachite Green dye for, 62.
- , manila compound with, 175.
- , manila with as lacquer, 178.
- , mannol plastifier for, 102.
- , mfr. of, 40, 45, 100, 101, 118, 149, 161, 170, 171, 185, 206, 209, 212, 240, 247, 286, 288, 293, 297, 301, 415, 1436, 1438, 1439, 1441, 1448, 1453, 1455, 1470, 1617.
- , —, laboratory method, 1467.
- , —, one-step, 1433.
- , —, (water-insoluble at 16°), 82, 84.
- , matt finish on, 2195, 2198.
- , matt finish lacquer containing, 2418.
- , melting point of raised, 136.
- , metal cemented with, 238.
- , metal coated with, 211.
- , methyl acetate solvent for, 134, 1226.
- , methyl acetate used in lacquer, 2406.
- , methyl acetoacetate with, as plastic, 48.
- , methyl alcohol solvent with nitromethane, 124.
- , methyl alcohol used in lacquer, 2406.
- , methylcellulose insolubilized by, 2421.
- , methylcellulose solubility decreased by, 2454.
- , methylcyclohexanone as solvent for, 124.
- , Methylene Blue B dye for, 62.
- , methylethyl acetoacetate with as plastic, 48.
- , methylethyl ketone for reducing viscosity of, 224.
- , methylglycol acetate as solvent for, 124.



- Ethylcellulose, Methyl Violet dye for, 62.  
—, molecular size, 1367.  
—, mordanting, 137.  
—, naphtha solvent plasticizer for, 86.  
—, *b*-naphthol emulsified by, 2448.  
—, Nigrosine B dye for, 62.  
—, nitrating, 1676.  
—, 4-nitrobenzeneazo-*p*-xylydine for dyeing, 2238.  
—, nitrobenzene plastifier for, 102.  
—, nitrocellulose combined with, 48.  
—, 2-nitro-4-chlor-4'-methyldi-phenylamine for dyeing, 2238.  
—, nitromethane solvent for, 124.  
—, 4-nitro-2-methoxybenzeneazodi-ethyl-aniline for dyeing, 2238.  
—, 4-nitro-2-methoxybenzeneazodi-methylaniline for dyeing, 2238.  
—, non-solvent of, 1436.  
—, oils and for varnish, 266.  
—, optical indifference of, 1357.  
—, Orange II dye for, 62.  
—, oxyn with as lacquer, 193.  
—, package dyeing of, 2307.  
—, paint containing, 2456.  
—, paint, washable, made using, 2409.  
—, paper cemented with, 238.  
—, paper impregnated with, 235, 236.  
—, Paramine Brown dye for, 62.  
—, paste condition, 1375.  
—, pattern effects on, 104.  
—, pencil stains removed by, 2552.  
—, pentaerythritol abietate with, 1576.  
—, pentaerythritol abietate lacquer with, 234.  
—, pentaerythritol chlorphthalate with, 1576.  
—, pentaerythritol chlorphthalate lacquer with, 234.  
—, pentaerythritol diglycollate with, 1576.  
—, pentaerythritol diglycollate lacquer with, 234.  
—, pentaerythritol laurate with, 1576.  
—, pentaerythritol laurate lacquer with, 234.  
—, pentaerythritol linoleate with, 1576.  
—, pentaerythritol linoleate lacquer with, 234.  
Ethylcellulose, pentaerythritol maleate with, 1576.  
—, pentaerythritol maleate lacquer with, 234.  
—, pentaerythritol naphthenate with, 1576.  
—, pentaerythritol naphthenate lacquer with, 234.  
—, pentaerythritol phthalate with, 1576.  
—, pentaerythritol phthalate lacquer with, 234.  
—, pentaerythritol ricinoleate with, 1576.  
—, pentaerythritol ricinoleate lacquer with, 234.  
—, pentaerythritol salicylacetate with, 1576.  
—, pentaerythritol salicylacetate lacquer with, 234.  
—, pentaerythritol succinate with, 1576.  
—, pentaerythritol succinate lacquer with, 234.  
—, perilla oil and as coating, 222.  
—, perilla oil combined with, 2410.  
—, phenol-aldehydes combined with, 1364.  
—, phenol emulsified by, 2448.  
—, phenol-furfural combined with, 1364.  
—, phosphorescent, 1372.  
—, phosphoric acid in deposition of, 103.  
—, *m*-phosphoric acid in mfr. of, 140.  
—, *o*-phosphoric acid in mfr. of, 140.  
—, phosphorus acid in deposition of, 103.  
—, photograph enlargements using, 65.  
—, phthalic acid and for metal coating, 145.  
—, pictures, transfer, made using, 2551.  
—, pigmentation of, 2477.  
—, plastic, mfr., 150, 192, 291, 292.  
—, plastic of, 82, 126, 140, 1581, 2546, 2556, 2563, 2568, 2569, 2570, 2573, 2574, 2575, 2576, 2577, 2578, 2581.  
—, plastic of artificial resin and, 173.  
—, plastic of gypsum, 2635.  
—, plasticity, 1351.  
—, plywood made using, 2597.

- Ethylcellulose, polarization, 1333.
- , polyvinyl acetate varnish with, 238.
  - , polyvinyl chloracetate varnish with, 238.
  - , polyvinyl chloride varnish with, 238.
  - , polyvinyl compound varnish with, 238.
  - , pontianac compound with, 175.
  - , pontianac with, as lacquer, 178.
  - , potassium thiocyanate for mordanting, 113.
  - , powdering, 237, 1567.
  - , precipitating, preventing, 1349.
  - , primer containing, 2480.
  - , printing on, 2322, 2345.
  - , properties, 1330, 1423.
  - , propyl acetoacetate with, as plastic, 48.
  - , propyl alcohol solvent with nitromethane, 124.
  - , propylene chloride as solvent for, 1823.
  - , Prussian blue colored for, 2477.
  - , purifying, 39, 149, 191, 269, 1463.
  - , radio-active, 1372.
  - , record, phonograph, made using, 2605.
  - , resins and for varnish, 266.
  - , resins combined with, 266.
  - , resorcinol diacetate plastifier for, 102.
  - , ribbon, mfr., 272.
  - , typewriter, stains removed by, 2552.
  - , Rocelline dye for, 62.
  - , Roentgen-spectrograph, 71.
  - , rosin, glyceryl ester of, with as lacquer, 178.
  - , rosin compound with, 175.
  - , rotatory power of, 1357.
  - , rubber and as coating, 222.
  - , rubber combined with, 2410, 2546.
  - , rubber plastic with, 232.
  - , salve made containing, 2450.
  - , screen of, 160.
  - , screen, folding, made using, 2535.
  - , —, fluorescent, made using, 2541.
  - , sheets of, mfr. of, 154, 183.
  - , shell, shotgun, waterproofed with, 2413, 2414.
- Ethylcellulose, shell, waterproofing of, with, 2413.
- , shellac compound with, 175.
  - , shellac plasticizer of, 188.
  - , silk, matt finish on, 2195.
  - , sizing, 2139.
  - , skin protected with, 297.
  - , soap containing, 2450.
  - , sodium butyl naphthalenesulfonate plasticizer for, 236.
  - , sodium thiocyanate for mordanting, 113.
  - , solubility of, 170, 1304, 1434.
  - , —, increasing, 177.
  - , —, modifying, 1348.
  - , solubilizing, 246.
  - , solution of, clarifying, 256.
  - , solvents, binary, for, 2411.
  - , solvents for, 1423, 1425, 1436, 2643.
  - , sorbitol abietate with, 1576.
  - , sorbitol abietate lacquer with, 234.
  - , sorbitol chlorophthalate with, 1576.
  - , sorbitol chlorophthalate lacquer with, 234.
  - , sorbitol diglycollate with, 1576.
  - , sorbitol diglycollate lacquer with, 234.
  - , sorbitol laurate with, 1576.
  - , sorbitol laurate lacquer with, 234.
  - , sorbitol linoleate with, 1576.
  - , sorbitol linoleate lacquer with, 234.
  - , sorbitol maleate with, 1576.
  - , sorbitol maleate lacquer with, 234.
  - , sorbitol naphthenate with, 1576.
  - , sorbitol naphthenate lacquer with, 234.
  - , sorbitol phthalate with, 1576.
  - , sorbitol phthalate lacquer with, 234.
  - , sorbitol ricinoleate with, 1576.
  - , sorbitol ricinoleate lacquer with, 1576.
  - , sorbitol salicylacetate with, 1576.
  - , sorbitol salicylacetate lacquer with, 234.
  - , sorbitol succinate with, 1576.
  - , sorbitol succinate lacquer with, 234.
  - , sound insulation using, 2439.
  - , spectrographic properties, 1370.

- Ethylcellulose, spectrography, 208.  
—, spinning solutions of, 259, 2107.  
—, stability, 1333.  
—, stencil sheet made using, 2495, 2496.  
—, stretching of, 1342.  
—, structure-viscosity of, 1353.  
—, sweet-meats coated with, 159.  
—, tannin combined with, 2465.  
—, tannin for loading, 137.  
—, tanning using, 2468, 2469.  
—, tannin treated, 1426.  
—, tape, mfr., 272.  
—, tearing strength of, 1342.  
—, terpene plasticizer for, 243.  
—, tetrachlorethane solvent for, 178.  
—, textiles, metallization of, using, 2361.  
—, thickener, 176, 2166.  
—, Thioflavine T dye for, 62.  
—, tin salt for loading, 137.  
—, titanium oxide colored for, 2477.  
—, toluene used in lacquer, 2406.  
—, toluenesulfonamide combined with, 266.  
—, *p*-toluenesulfonamide plastifier for, 102.  
—, *p*-toluenesulfonamide solvent for, 134.  
—, transfer made using, 2548, 2549, 2551.  
—, transfer, gold, made using, 2550.  
—, —, multicolor, made using, 2549.  
—, transfer base containing, 246.  
—, triacetin plastifier for, 102, 188.  
—, triacetin solvent for, 134.  
—, tribromcresyl acetate fire retardant, 304.  
—, tribromcresyl formate fire retardant, 304.  
—, tribromcresyl propionate fire retardant, 304.  
—, tribromnaphthyl acetate fire retardant, 304.  
—, tribromnaphthyl formate fire retardant, 304.  
—, tribromnaphthyl propionate fire retardant, 304.  
—, tribromphenyl acetate fire retardant, 304.  
—, tribromphenyl formate fire retardant, 304.  
—, tribromphenyl propionate fire retardant, 304.  
—, tribromxylenyl acetate fire retardant, 304.  
Ethylcellulose, tribromxylenyl formate fire retardant, 304.  
—, tribromxylenyl propionate fire retardant, 304.  
—, trichlorcresyl acetate fire retardant, 304.  
—, trichlorcresyl formate fire retardant, 304.  
—, trichlorcresyl propionate fire retardant, 304.  
—, trichlorphenyl acetate fire retardant, 304.  
—, trichlorphenyl formate fire retardant, 304.  
—, trichlorphenyl propionate fire retardant, 304.  
—, trichlorxylenyl acetate fire retardant, 304.  
—, trichlorxylenyl formate fire retardant, 304.  
—, trichlorxylenyl propionate fire retardant, 304.  
—, tricresyl phosphate combined with, 1364.  
—, tricresyl phosphate for reducing viscosity of, 224.  
—, tricresyl phosphate plastifier for, 102.  
—, triiodocresyl acetate fire retardant, 304.  
—, triiodocresyl formate fire retardant, 304.  
—, triiodocresyl propionate fire retardant, 304.  
—, triiodonaphthyl acetate fire retardant, 304.  
—, triiodonaphthyl formate fire retardant, 304.  
—, triiodonaphthyl propionate fire retardant, 304.  
—, triiodophenylacetate fire retardant, 304.  
—, triiodophenyl formate fire retardant, 304.  
—, triiodophenylpropionate fire retardant, 304.  
—, triiodoxylenyl acetate fire retardant, 304.  
—, triiodoxylenyl formate fire retardant, 304.

- Ethylcellulose, triiodoxylenyl propionate fire retardant, 304.
- , triphenyl phosphate combined with, 1364.
  - , tubular threads of, mfr., 213.
  - , tumors treated with, 2447.
  - , tungsten salt for loading, 137.
  - , turpentine combined with, 2410.
  - , urea derivative stabilized for, 102.
  - , urea-hexamethylamine condensate combined with, 152.
  - , urea stabilizer for, 102.
  - , uses of, 22, 2645.
  - , varnish containing, 10, 266.
  - , varnish, matt finish on, 2195.
  - , vinyl acetate as gel for, 183.
  - , vinyl bromide as gel for, 183.
  - , vinyl chloride as gel for, 183.
  - , vinyl phosphate as gel for, 183.
  - , vinyl phthalate as gel for, 183.
  - , vinyl propionate as gel for, 183.
  - , viscose in mfr. of, 206.
  - , viscosity of, 295, 1342.
  - , —, changes in, 1356.
  - , —, increasing, 191.
  - , —, reducing, 127, 224, 246, 300, 1332, 1352, 1354, 1356, 1560, 1627, 1959, 2016, 2092, 2407.
  - , —, —, acetic acid for, 1360, 1364.
  - , —, —, acid for, 1359.
  - , —, —, aluminum chloride for, 1365.
  - , —, —, aluminum resinate for, 1365.
  - , —, —, aluminum sulfate for, 1365.
  - , —, —, copper for, 1365.
  - , —, —, copper oleate for, 1365.
  - , —, —, heat for, 1360, 1364.
  - , —, —, hydrochloric acid for, 1361.
  - , —, —, incubation for, 1360.
  - , —, —, magnesium oleate for, 1365.
  - , —, —, nitric acid for, 1361, 1363.
  - , —, —, oxalic acid for, 1362.
  - , —, —, phosphoric acid for, 1362.
  - , —, —, sodium acid sulfate for, 1360.
  - , —, —, sulfuric acid for, 1362.
  - , —, —, triethanolamine for, 1365.
  - , —, —, zinc for, 1365.
  - , —, —, zinc chloride for, 1362.
  - , —, —, zinc oleate for, 1365.
- Ethylcellulose, viscosity of, water effect on, 1354, 1356.
- , water solubility, 1345.
  - , water-insoluble, 81.
  - , waterproofing, 107, 110, 202, 2157, 2158.
  - , —, regenerated cellulose for, 2412.
  - , water solubility of, 278.
  - , water-soluble, mfr., 247, 1423.
  - , —, modifying, 1348.
  - , —, suspensoid, 2176.
  - , wire, coating of, using, 2555.
  - , wood cellulose for mfr. of, 290.
  - , wood cemented with, 238.
  - , wood coated with, 211.
  - , wood impregnated with, 235, 236.
  - , wool impregnated with, 235, 236.
  - , wrapping tissue made using, 2527.
  - , xylene alkyl sulfonamides plasticifier for, 102.
  - , *m*-xylylethane plastic of with, 87.
  - , X-ray diagram of, 1371.
  - , zinc oxide combined with, 2410, 2543.
  - , zinc salt for loading, 137.
  - , *see also* Cellulose, ethylated; Diethylcellulose; Dimethylcellulose; monoMethylcellulose; Triethylcellulose; Trimethylcellulose.
- mono-Ethylcellulose, cellulose laurate made from, 232.
- , cellulose phenylacetate made from, 232.
  - , esterifying, 288.
  - , mfr. of, 286, 288.
- 0.5-Ethylcellulose, 1654.
- Ethylcellulose acetate, 139, 1617, 1663.
- , capsule made using, 2523.
  - , card, playing, mfr. using, 2609.
  - , fiber made using, 2523.
  - , film made using, 2523.
  - , foils made using, 2523.
  - , hardening, formaldehyde for, 139.
  - , mfr. of, 85, 114, 191, 223, 287, 289, 1616, 1617, 1662, 1749.
  - , milk bottle, pulp, made using, 1669.
- mono-Ethylcellulose acetate, mfr., 191, 242, 287.

- Ethylcellulose acetoformate, 1664.  
Ethylcellulose benzoate, 1652, 1654, 1658.  
—, mfr. of, 122, 237, 289, 1749.  
—, properties, 1655.  
Ethylcellulose butyrate, anilinodimethylaminophenonaphthoxyazine chloride combined with, 283.  
—, 2,7-dimethyl-3-dimethylamino-6-methylaminoazanium phenyl chloride combined with, 283.  
—, film made using, 1669.  
—, film, colored, made using, 2531.  
—, mfr. of, 1749.  
—, resorcinbenzeindimethyl ether bromide combined with, 283.  
Ethylcellulose caprate, 1655.  
—, mfr. of, 236.  
Ethylcellulose caproate, 1655.  
—, mfr. of, 236.  
Ethylcellulose caprylate, 1655.  
Ethylcellulose cyclohexanecarboxylate, mfr. of, 190.  
Ethylcellulose dinitrate, 1648.  
Ethylcellulose film, matt surface of, 268.  
Ethylcellulose formate, mfr., 85, 257, 1749.  
Ethylcellulose formylacetate, 1664.  
Ethylcellulose glycollate, 1725, 2627.  
Ethylcellulose lacquer, mfr., 192, 1617.  
Ethylcellulose lactate, 2627.  
Ethylcellulose laurate, 153, 201, 1655, 1670, 1671.  
—, crayon made with, 237.  
—, mfr. of, 233, 1617.  
—, plastic, mfr., 2575.  
—, sealing wax made with, 237.  
—, varnish containing, 1617.  
Ethylcellulose linoleate, 1665.  
—, coatings, artificial, of, 1666.  
—, plastics of, 1666.  
Ethylcellulose myristate, 1655, 1658.  
—, mfr. of, 122, 1741.  
Ethylcellulose naphthenate, mfr., 1657.  
Ethylcellulose nitrate, ammonium bromide for reducing inflammability of, 177.  
—, ammonium phosphate for reducing inflammability of, 177.  
—, mfr. of, 85, 177.  
Ethylcellulose oleate, 1665, 2159.  
Ethylcellulose oleate, mfr. of, 289.  
Ethylcellulose oxalate, mfr., 870.  
Ethylcellulose palmitate, 1655, 2158, 2159.  
—, cable, insulation, made using, 1670.  
—, glass, laminated, using, 1669, 2591.  
—, —, safety, using, 1669.  
—, insulating wire with, 155.  
—, mfr., 1617.  
—, varnish containing, 1617.  
—, wire, insulation, made using, 1670.  
Ethylcellulose phenylacetate, mfr., 190, 233.  
Ethylcellulose phenylthiourethane, filter made using, 2461.  
Ethylcellulose phenylurethane, 91.  
Ethylcellulose N-phenylurethane, 1646.  
Ethylcellulose phosphate, 1669, 1674, 1678.  
—, film containing, 1678, 2521.  
—, film backing of, 120.  
—, mfr. of, 243, 1677.  
Ethylcellulose propionate, capsule made using, 2523.  
—, fiber made using, 2523.  
—, film made using, 2523.  
—, foils made using, 2523.  
—, mfr., 1749.  
Ethylcellulose salicylate, 1655.  
Ethylcellulose silicate, mfr. of, 122, 243.  
Ethylcellulose stearate, 1653, 1655, 1665, 1669, 2158, 2159.  
—, cable, insulation, made using, 1670.  
—, coatings, artificial, of, 1666.  
—, film of, 240, 1669, 1678, 2521.  
—, film backing of, 119.  
—, insulating wire with, 155.  
—, mfr. of, 237, 289.  
—, plastic of, 1666.  
—, wire, insulation, made using, 1670.  
Ethylcellulose tartronate, 2627.  
Ethylcellulose thiourethane, 1645.  
Ethylcellulose tolylurethane, 91.  
Ethylcellulose undecylate, 1655.  
Ethylcellulose xanthanilid, 1644.  
—, mfr. of, 91.  
Ethylcellulose xanthate, 1766, 2169.  
—, mfr. of, 125, 1765.

- Ethylcellulose xanthaxilylidid, 1645.  
Ethylcellulose xanthtoluidid, 1644.  
Ethylcellulose xylylurethane, 91.  
Ethylchloracetate, 1758, 1919.  
—, cellulose acetate solvent, 472, 1818, 1819, 1843.  
—, flash point, 2061.  
—, mfr. of, 580.  
Ethylchlorbenzyl ether, 1871.  
Ethyl chlorcarbonate, 124, 1907.  
—, cellulose ester solvent, 267.  
—, cellulose ether solvent, 267.  
—, *see also Ethyl chlorformate*.  
Ethyl chlorformate, 1956.  
N-Ethyl chlorhydrin, 2630.  
Ethylchloride, 87, 150, 161, 170, 190, 233, 238, 239, 247, 278, 286, 287, 288, 289, 290, 293, 294, 297, 301, 1274, 1424, 1436, 1437, 1439, 1441, 1448, 1450, 1453, 1455, 1663, 1738, 1739, 1815, 1871, 1998, 2059, 2446.  
—, battery, dry, made using, 1273.  
—, cellulose acetate solvent, 484.  
—, cellulose etherified by, 100, 870, 1337, 1413, 1453.  
—, cellulose ether non-solvent, 1452.  
—, cellulose ether solvent, 1273.  
—, cellulose ethylated by, 9, 20, 25, 116, 118.  
—, cresol with as plastic, 561.  
—, dextrin etherified by, 100, 1453.  
—, emulsions, 1273.  
—, etherifying, 1417.  
—, formaldehyde with as plastic, 561.  
—, furfural with as cellulose acetate solvent, 580.  
—, gold leaf made using, 1274.  
—, mfr. of, 1068, 1267, 1274.  
—, pentaerythrite produced with, 1273.  
—, properties, 1274.  
—, refrigerant, 1274.  
—, solvents, 1273, 1274, 1277.  
—, starch etherified by, 100, 1453.  
—, tar-oil with as plastic, 561.  
—, uses, 1273.  
Ethyl chlor-myristate, 1941.  
—, cellulose acetate plasticizer, 390.  
Ethyl chlor-palmitate, 1941.  
—, cellulose acetate plasticizer, 390.  
Ethyl chlor-stearate, 1941.  
—, cellulose acetate plasticizer, 390.  
Ethyl chlorsulfonate, cellulose etherified using, 1298.  
Ethyl chlorsulfonate, ethyl chloride from, 1272.  
—, ethyl sulfate made using, 1287.  
Ethylchlorsulfonic acid, 1280.  
Ethyl cinnamate, 1954, 1978.  
—, airplane coated with, 2484.  
—, celluloid solvent, 890.  
—, cellulose acetate plastifier, 483, 579.  
—, cellulose acetate solvent, 890, 1785, 1818, 1819.  
Ethyl citrate, 1769, 1952, 1953.  
—, cellulose ether solvent, 1841.  
—, ethylcellulose solvent, 19.  
—, mfr., 580.  
—, starch ether solvent, 1483.  
*n-Ethyl citrate, see Ethyl citrate*.  
Ethyl citrate-alcohol, ethylcellulose xanthanilid solvent, 1644.  
Ethyl collidinedicarboxylate, celluloid solvent, 890.  
—, cellulose acetate solvent, 890, 1785.  
Ethyl cresoxyacetate, 1926.  
Ethyl cresoxyamyl acetate, 1926.  
Ethyl cresoxybutyl acetate, 1926.  
Ethyl cresoxyethyl acetate, 1926.  
Ethyl cresoxymethyl acetate, 1926.  
Ethylcresoxypropyl acetate, 1926.  
Ethylcresyl ether, 1870.  
Ethyl crotonate, 1954.  
—, cellulose acetate solvent, 507.  
Ethyl  $\alpha$ -crotonate, 1953.  
Ethyl cyanoacetate, amines for solvent for, 2010.  
—, celluloid solvent, 890.  
—, cellulose acetate solvent, 890, 1785.  
Ethyl cyclopentanone carboxylate, 1993.  
Ethyl dextrin, 44.  
—, mfr. of, 100.  
Ethyldextrin acetates, 43, 1367.  
Ethyl diacetyloxystearate, camphor substitute, 2051.  
Ethyl dibenzoyloxystearate, camphor substitute, 2051.  
Ethyl dibrom-malonate, 1949.  
Ethyl dicresyl phosphate, 1896.  
*mono*-Ethyldicresyl phosphate, benzylcellulose plastifier, 126.  
—, ethylcellulose plastifier, 126.  
Ethyl diethylene glycol, 1847.  
—, *see also Diethylene glycol ethyl ether*.  
*mono*-Ethyl diethyleneglycol, cellulose ether solvent, 172.

- Ethyl diethyleneglycol caprate, 1847.  
 Ethyl diethyleneglycol caproate, 1848.  
 Ethyl diethyleneglycol laurate, 1848.  
 Ethyl diethyleneglycol linoleate, 1848.  
 Ethyl diethyleneglycol oleate, 1848.  
 Ethyl diethyleneglycol palmitate, 1848.  
 Ethyl diethyleneglycol ricinoleate, 1848.  
 Ethyl diethyleneglycol stearate, 1848.  
 Ethyl diethyl malonate, 1948.  
 Ethyl diformyloxystearate, camphor substitute, 2051.  
 Ethyl dimethylethylacetate, properties, 762.  
 Ethyl dinaphthyl phosphate, 1896.  
 Ethyl diphenyl phosphate, 1896, 1898.  
*mono*-Ethyldiphenyl phosphate, benzylcellulose plastifier, 126, 167.  
 —, ethylcellulose plastifier, 126, 167.  
 Ethyl dipropionyloxystearate, camphor substitute, 205.  
 Ethyl dipropylene glycol, 1847.  
*mono*-Ethyldipropylene glycol, cellulose ester solvent, 57.  
 —, cellulose ether solvent, 57.  
 Ethyl dipropyleneglycol caprate, 1847.  
 Ethyl dipropyleneglycol caproate, 1848.  
 Ethyl dipropyleneglycol laurate, 1848.  
 Ethyl dipropyleneglycol linoleate, 1848.  
 Ethyl dipropyleneglycol oleate, 1848.  
 Ethyl dipropyleneglycol palmitate, 1848.  
 Ethyl dipropyleneglycol ricinoleate, 1848.  
 Ethyl dipropyleneglycol stearate, 1848.  
 Ethyldi-*n*-propyl orthoacetate, cellulose ester solvent, 708.  
 Ethyldipropyl phosphate, cellulose acetate plastifier, 981.  
 Ethyl enanthate, *see* Ethyl oenanthate.  
 Ethylene, 1261, 1656, 1821.  
 Ethylene, chlorhydrins made using, 503.  
 —, ethylene dichloride made from, 447, 487.  
 —, mfr. of, 100, 539.  
 —, sources, 517.  
 —, starch acted on by, 1154.  
 —, uses, 517.  
 Ethylene abietate, cellulose ether plasticizer, 194.  
 Ethylene acetate, 1922.  
 Ethyleneacetochlorhydrin, 1844.  
 —, cellulose acetate solvent, 406, 1842.  
 —, cellulose nitrate solvent, 406.  
 Ethylene adipate, cellulose ether plasticizer, 194.  
 Ethylene-alcohol, benzylcellulose solvent, 1545.  
 —, *see also Glycol*.  
 Ethylenebenzenedisulfonic acid, cellulose ester coagulant for, 226.  
 —, cellulose ether coagulant for, 226.  
 Ethylenebenzenesulfonic acid, cellulose ester coagulant for, 226.  
 —, cellulose ether coagulant for, 226.  
 Ethylene bromhydrin, *see Glycol bromhydrin*.  
 Ethylene bromide, 1397.  
 —, cellulose ether dyed using, 2256.  
 —, cellulose ether solvent, 50.  
 Ethylene bromide-alcohol, ethylcellulose xanthanilid solvent, 1644.  
 Ethylenebutylidene ether, 1874, 1875.  
 —, cellulose acetate solvent, 534, 644.  
 Ethylenecarboxylic acid, *see Acrylic acid*.  
 Ethylene cellulose glycol ether, mfr., 292.  
 Ethylene chlorbromide, 1396, 1397, 1834.  
 —, cellulose etherified by, 1382.  
 —, ethyl alcohol and, cellulose ether solvent, 99.  
 —, ethylcellulose solvent, 1823.  
 —, methyl alcohol and, cellulose ether solvent, 99.  
 —, plastic made with, 520.  
 —, propylene chloride solvent, 1823.  
 Ethylene monochlorbromide, cellulose etherified using, 274.

- Ethylene chlorhydrin, 144, 245, 1083, 1339, 1384, 1389, 1390, 1395, 1769, 1839, 1840, 1851, 2630.
- , cellulose acetate dyed using, 530.
- , cellulose acetate film containing, 532.
- , cellulose acetate lacquer containing, 547.
- , cellulose acetate solvent, 406, 526, 569.
- , cellulose compound with, 60, 89.
- , cellulose ether dyeing using, 2237, 2256, 2267.
- , cellulose etherified by, 111, 1382.
- , cellulose ether solvent, 132.
- , cellulose glycol ether mfr. using, 292.
- , ethylcellulose solvent, 1442.
- , ethyleneglycol ethers made using, 517.
- , ethyleneglycol made from, 627.
- , film made using, 2508.
- , impregnating media containing, 532.
- , mfr., 671.
- , physical constants, 1792.
- , *see also Glycol chlorhydrins.*
- Ethylenechlorhydrin-benzyl-alcohol, ethylcellulose xanthanilid solvent, 1644.
- Ethylene chloride, 877, 918, 2007.
- , acetic acid recovery using, 724.
- , benzylcellulose solvent, 230.
- , cellulose acetate hydrolyzed in presence of, 1033.
- , cellulose acetate solvent, 406, 471, 472, 1818, 1819, 1842, 1843.
- , cellulose acetylated in presence of, 1057.
- , cellulose benzoate solvent, 1021.
- , cellulose benzoylated in presence of, 1603.
- , cellulose ether dyed using, 2255.
- , cellulose etherified by, 1382, 1401.
- , cellulose ether solvent, 51, 230.
- , ethylcellulose solvent, 230.
- , mfr., 539.
- , oil removed by, 158.
- , solubilizing agent, 2212.
- Ethylene chloride-alcohol, cellulose benzoate solvent, 1021.
- , ethylcellulose xanthanilid solvent, 1644.
- Ethylene cyanhydride, see Glycol cyanhydride.*
- Ethylene diacetate, acetaldehyde made using, 833.
- , acetic acid made using, 833.
- Ethylenediamine, 1641, 1747, 1749, 1765, 1768.
- , alkalicellulose compound with, 305.
- , hydrolyzing cellulose acetate with, 421.
- Ethylenediaminecellulose, 1749.
- Ethylene dibromide, amines solvent for, 2010.
- Ethylene dicarboxylic acid, see Succinic acid.*
- Ethylene dichloride, 185, 1059, 1397, 1769, 1851, 1968, 1990, 1994, 2243.
- , acetic acid concentrated using, 780, 886.
- , acetic acid dehydrated by, 943.
- , benzylcellulose coagulated by, 259.
- , cellulose acetate coagulated by, 259.
- , cellulose acetate dyed using, 841.
- , cellulose acetate fabric dampened with, 603.
- , cellulose acetate plastifier, 391.
- , cellulose butyrate coagulated by, 259.
- , cellulose ether dyed using, 2237, 2270.
- , cellulose ether dyed level in presence of, 104.
- , cellulose ether softener, 2130.
- , cellulose ether solvent, 135, 2070, 2078, 2102.
- , cellulose formate coagulated by, 259.
- , cellulose propionate coagulated by, 259.
- , ethylcellulose coagulated by, 259.
- , glycol diacetate from, 475.
- , lacquer containing, 2395.
- , mfr., 447, 454, 487.
- , uses, 680, 871.
- Ethylenediphenol, cellulose acetate plastifier, 533.
- , cellulose nitrate plastifier, 533.
- Ethyleneethenyldiamine, see Lysidine.*
- Ethylene ethylidene ether, 1874, 1875.
- , cellulose acetate solvent, 534, 644.



- Ethyleneglycol, 1075, 1811, 1812, 1837, 1838, 1845, 1853, 1875, 1920, 1982.  
 —, amines solvent for, 2010.  
 —, amyl ether of, 1848, 1850.  
 —, benzylcellulose solvent, 1588.  
 —, butyl ether of, 1848, 1850, 1855.  
 —, cellulose acetate lubricant, 1023.  
 —, cellulose acetate solvent, 1038.  
 —, cellulose ether made using, 2460.  
 —, cellulose ether collodion containing, 2446.  
 —, cellulose ether covered, 2643.  
 —, cellulose etherified by, 1383.  
 —, cellulose ether non-solvent, 183.  
 —, cellulose ether plasticizer, 302.  
 —, cellulose ether softener, 303.  
 —, cellulose ether solvent, 178, 224, 2103, 2231.  
 —, cellulose ether wetted out by, 172.  
 —, cellulose treated with, 160.  
 —, diisobutyl ether of, 1851, 1853.  
 —, diethyl ether of, 1847, 1848, 1851.  
 —, dimethyl ether of, 1847, 1848, 1851.  
 —, dipropyl ethers of, 1848, 1851.  
 —, dyeing cellulose ether in presence of, 178.  
 —, etherifying cellulose with, 1385.  
 —, ethyl ether of, 1848, 1850, 1855.  
 —, film made using, 1074.  
 —, glass, laminated, made using, 2594, 2596.  
 —, lacquer containing, 2393.  
 —, mfr., 612, 627.  
 —, methyl ether of, 1848, 1850, 1855.  
 —, monoallyl ether of, 1851, 1853.  
 —, monocellulose ether, 1399.  
 —, monoethyl ether of, 1851.  
 —, monomethyl ether of, 1851.  
 —, monopropyl ether of, 1851.  
 —, properties, 537, 725.  
 —, propyl ether of, 1848, 1855.  
 —, *iso*-propyl ether of, 1848, 1850.  
 —, *n*-propyl ether of, 1848.  
 —, starch treated with, 160.  
 —, uses, 537.  
 —, varnish containing, 2637.  
 —, wetting agent, 2207, 2210.  
 —, *see also Glycol*.  
 Ethylene glycol abietate, 1955.  
 Ethylene glycol acetate, 1921.  
 Ethylene glycol acetate, cellulose ether collodion containing, 2446.  
 Ethyleneglycol amyl ether, cellulose ether non-solvent, 183.  
 Ethyleneglycol *iso*-amyl ether, 1849.  
 Ethyleneglycolaryl ether, cellulose acetate softener, 533.  
 Ethyleneglycolbenzyl ether, acetals made using, 998.  
 Ethyleneglycol butyl ether, 1849, 1851.  
 —, acetals made using, 998.  
 —, cellulose ester plasticizer, 119.  
 —, cellulose ether non-solvent, 183.  
 —, cellulose ether plasticizer, 119.  
 Ethyleneglycol *iso*-butyl ether, 1849.  
 Ethyleneglycol monobutyl ether, cellulose ether emulsifier, 237.  
 Ethyleneglycol butyrate, 1921.  
 Ethyleneglycol monocresyl benzoate, cellulose acetate plastifier, 534.  
 Ethyleneglycol monocresyl ether, ethylcellulose solvent, 300.  
 Ethyleneglycol diacetate, 1921.  
 —, benzylcellulose plastifier, 188.  
 —, cellulose acetate solvent, 733.  
 —, cellulose ether non-solvent, 183.  
 —, ethylcellulose plasticizer, 188.  
 —, glass, laminated, made using, 2594.  
 —, mfr. of, 1068.  
 Ethylene glycol dibenzoate, lacquer, unflammable, made using, 670.  
 Ethyleneglycol diethyl ether, 1849, 1853, 1855.  
 Ethyleneglycol distearate, 1940.  
 Ethyleneglycol ethers, ethylenechlorhydrin for mfr. of, 517.  
 —, ethylene oxide for mfr. of, 517.  
 —, glass, laminated, made using, 2586.  
 Ethyleneglycol ethyl ether, 1849.  
 —, acetals made using, 998.  
 —, cellulose ether delustrated with, 185.  
 —, cellulose ether non-solvent, 183.  
 —, delustrating with, 185.  
 —, relustring with, 2201.  
 Ethyleneglycol monoethyl ether, 733.  
 —, cellulose acetate solvent, 738.  
 —, cellulose ester plasticizer, 119.  
 —, cellulose ether plasticizer, 119.  
 —, cellulose ether solvent, 178, 239.

- Ethyleneglycol *mono* ethyl ether,  
cellulose nitrate solvent, 239.  
—, dyeing cellulose ether in pres-  
ence of, 178.  
*mono*Ethyleneglycol *monoethyl*  
ethyl ether, cellulose acetate  
plastifier, 940.  
Ethyleneglycol hexastearate, 1940.  
Ethyleneglycol methyl acetal,  
softener, 2216.  
Ethyleneglycol *monomethyl* ace-  
tate, cellulose acetate solvent,  
666.  
Ethyleneglycol methyl ether, 1849,  
1875.  
—, acetals made using, 998.  
—, benzylcellulose lacquer contain-  
ing, 1588.  
—, cellulose ether delustred with,  
185.  
—, cellulose ether non-solvent, 183.  
—, delustring with, 185.  
Ethyleneglycol *monomethyl* ether,  
celluloid solvent, 890.  
—, cellulose acetate relustred by,  
600.  
—, cellulose acetate solvent, 890.  
—, cellulose ester plasticizer, 119.  
—, cellulose ether plasticizer, 119.  
—, cellulose ether wetted out by,  
172.  
Ethylene glycol *monomethyl* ether  
solvent, 224.  
Ethyleneglycol *monomethyl* form-  
ate, cellulose acetate solvent, 666.  
Ethyleneglycol *monomethyl* phtha-  
late, cellulose acetate solvent,  
666.  
Ethyleneglycol monoacetate, 1920.  
Ethyleneglycol *monoisoamyl* ether,  
1846.  
Ethyleneglycol *monobutyl* ether,  
1846, 1848, 1987.  
—, benzylcellulose solvent, 1555.  
Ethyleneglycol *monoisobutyl* ether,  
1846.  
Ethyleneglycol *mono-n-butyl* ether,  
1846, 1854.  
Ethyleneglycol *monocresyl* ether,  
1961.  
Ethyleneglycol *monoethyl* acetate,  
cellulose purified by, 1412.  
Ethyleneglycol *monoethyl* ether,  
1846, 1847, 1848, 1851.  
—, benzyl abietate solvent, 1851.  
—, benzylcellulose solvent, 1851.  
—, cellulose acetate solvent, 2355.  
Ethyleneglycol *monoethyl* ether,  
cellulose purified by, 1412.  
—, dammar solvent, 1851.  
—, elemi solvent, 1851.  
—, ethylcellulose solvent, 1851.  
—, mastic solvent, 1851.  
—, methylcellulose solvent, 1851.  
—, pictures, transfer, made using,  
2551.  
—, sandarac solvent, 1851.  
Ethyleneglycol *monoethyl* ether  
ester of stearic acid, 2643.  
Ethyleneglycol *monoethylether*  
monoacetate, 1921.  
Ethyleneglycol *monomethyl*  
acetate, 1912.  
—, cellulose purified by, 1412.  
Ethyleneglycol *monomethyl* ether,  
1846, 1850, 1922, 1944, 2200.  
—, cellulose acetate solvent, 1785.  
—, relustring with, 2199, 2201.  
—, *see also Methylglycol*.  
Ethyleneglycol *monomethyl* ether  
acetate, cellulose purified by,  
1412.  
Ethyleneglycol *monomethyl* for-  
mate, 1912.  
Ethyleneglycol *monomethyl* fuma-  
rate, 1950.  
Ethyleneglycol *monomethyl* male-  
ate, 1950.  
Ethyleneglycol *monomethyl*  
phthalate, 1912.  
Ethyleneglycol *monophenyl* ether,  
1870.  
Ethyleneglycol *monopropyl*  
ether, 1846.  
Ethyleneglycol *monoisopropyl*  
ether, 1846.  
Ethyleneglycol *mono-n-propyl*  
ether, 1846.  
Ethyleneglycol *monostearate*, 1940.  
Ethyleneglycol nitrate, 1908.  
Ethyleneglycol oleate, stencil  
made using, 663.  
—, stencil sheet made using, 663,  
801.  
Ethyleneglycol *phenyl* ether, cel-  
lulose acetate plastifier, 533.  
Ethyleneglycol *monophenyl* ether,  
ethylcellulose solvent, 300.  
Ethyleneglycol phthalate, con-  
stants of, 2055.  
Ethyleneglycol propionate, 1921.  
Ethyleneglycol *propyl* ether, 1849.  
—, acetals made using, 998.  
—, cellulose ester plasticizer, 119.

- Ethyleneglycol propyl ether, cellulose ether non-solvent, 183.  
—, cellulose ether plasticizer, 119.  
Ethyleneglycol iso-propyl ether, 1849.  
Ethyleneglycol ricinoleate, stencil made using, 663.  
—, stencil sheet made using, 663, 801, 2497.  
Ethyleneglycol monosalicylate, cellulose ether plasticizer, 236.  
Ethyleneglycol tetrastearate, 1940.  
Ethyleneglycol tristearate, 1940.  
Ethyleneimine, 1381.  
—, carbohydrates compound with, 64.  
—, cellulose compound with, 64.  
—, dextrin compound with, 64.  
—, starch compound with, 64.  
—, sugar compound with, 64.  
—, tragacanth compound with, 64.  
*Ethyleneimine*, see *Piperazine*.  
Ethylenemonoacetate, 1921.  
Ethylenemonochloride, 1384.  
Ethylene oxide, 289, 1380, 1381, 1390, 1391, 1392, 1393, 1394, 1395, 1398, 1399, 1614, 1658, 1659, 1839, 1849.  
—, cellulose acetate solvent, 981.  
—, cellulose combined with, 2641.  
—, cellulose ether dyed using, 2267.  
—, cellulose etherified by, 111.  
—, etherifying cellulose with, 1385.  
—, ethylene glycol ethers made using, 517.  
—, liquid, cellulose acetate solvent, 2564.  
—, mfr., 612.  
Ethylenephendisulfonic acid, cellulose ester coagulant for, 226.  
—, cellulose ether coagulant for, 226.  
Ethylenephensulfonic acid, cellulose ester coagulant, 226.  
—, cellulose ether coagulant for, 226.  
Ethylenepropylenediglycol caproate, 1939.  
Ethylenepropylenediglycol caprate, 1939.  
Ethylenepropylenediglycol laurate, 1939.  
Ethylenepropylenediglycol linoleate, 1939.  
Ethylenepropylenediglycol oleate, 1939.  
Ethylenepropylenediglycol palmitate, 1939.  
Ethylenepropylenediglycol ricinoleate, 1939.  
Ethylenepropylenediglycol stearate, 1939.  
Ethylenepropyleneglycol, 1839.  
—, cellulose ether plasticizer, 140.  
Ethylenesulfide, 1381.  
—, carbohydrates compound with, 64.  
—, cellulose compound with, 64.  
—, dextrin compound with, 64.  
—, starch compound with, 64.  
—, sugar compound with, 64.  
—, tragacanth compound with, 64.  
Ethylenesulfonic acid, cellulose ether strengthened by, 2135.  
*Ethylene tetraiodide*, see *Di-iodoform*.  
Ethylenethiodiglycol, cellulose acetate dyed using, 814.  
—, cellulose ether dyed using, 2312.  
Ethylenethiohydrin, 1845.  
—, cellulose acetate plastifier, 457.  
—, cellulose acetate softener, 533.  
—, cellulose nitrate plastic containing, 66.  
Ethylene trichloride, 1384.  
—, cellulose ether solvent, 50.  
—, ethylcellulose solvent, 19.  
—, see also *Trichlorethylene*.  
Ethylethenyltetrachloramidine, 2019.  
Ethylethenyltrichloramidine, 2015, 2016.  
Ethylethenyltrichloramidine acetate, 2019.  
Ethyl ether, 1261, 2023.  
—, cellulose acetate plasticizer, 398.  
—, cellulose acetate precipitant, 385.  
—, constants of, 517.  
—, ethylcellulose solvent, 19.  
—, glass, laminated, made using, 2594.  
—, mfr., 575.  
—, oil removed by, 158.  
—, solubility organic compounds in, 2007.  
—, see also *Ether*, *ethyl*.  
Ethyl ethoxy-acetate, 1747.  
—, cellulose combined with, 228.  
Ethyl  $\alpha$ -ethoxypropionate, 1934.  
Ethylethyl acetoacetate, 1929.

- Ethylethyl carbamate, 1956.  
—, cellulose acetate plastifier, 1008.  
*Ethyl ethylene*, see *Butylene*.  
Ethylethylenediamine, 1639.  
Ethylethyleneglycol, cellulose acetate plastifier, 620.  
—, see also *Butylene glycol*.  
*mono*-Ethyl ethyleneglycol, cellulose acetate solvent, 617.  
—, cellulose ether solvent, 172.  
—, ink containing, 995.  
*mono*-Ethyl-ethyleneglycol acetate, cellulose ether emulsifier, 237.  
Ethylethyleneglycol ether, cellulose acetate solvent, 665.  
Ethylethylenepropylenediglycol, 1847.  
Ethylethylenepropylenediglycol caprate, 1847.  
Ethylethylenepropylenediglycol caproate, 1848.  
Ethylethylenepropylenediglycol laurate, 1848.  
Ethylethylenepropylenediglycol linoleate, 1848.  
Ethylethylenepropylenediglycol oleate, 1848.  
Ethylethylenepropylenediglycol palmitate, 1848.  
Ethylethylenepropylenediglycol ricinoleate, 1848.  
Ethylethylenepropylenediglycol stearate, 1848.  
Ethyl ethylhexylacetate, 630.  
Ethyl ethoxyphenyl sulfonate, 2034.  
Ethyl flax, mfr. of, 293.  
Ethyl formanilid, 1956.  
Ethyl formate, 1909, 1918, 1947, 2392.  
—, acetol made using, 891.  
—, balloon varnish containing, 438.  
—, boiling point methyl alcohol with, 1831.  
—, brush lacquer containing, 464.  
—, cellulose acetate precipitant, 811.  
—, cellulose acetate solvent, 463, 549, 699, 813.  
—, cellulose ether solvent, 54, 186, 2089.  
—, cellulose nitrate precipitant, 811.  
—, engine fuel containing, 1910.  
—, ethylcellulose solvent, 17, 18.  
—, flash point, 2061.  
—, mfr. of, 454, 457, 597.  
Ethyl formate, physical constants, 1792.  
Ethyl formyl naphthoate, cellulose acetate plastifier, 550.  
Ethyl formyl-oxystearate, 1939.  
Ethyl formyl-oxystearate, 1939.  
—, camphor substitute, 2051.  
Ethyl formyl-ricinoleate, 1939.  
—, camphor substitute, 2051.  
Ethyl formyl-salicylate, 1963, 2027.  
—, camphor substitute, 2051.  
—, cellulose acetate plastifier, 550.  
Ethyl fluor-myristate, 1941.  
Ethyl fluor-palmitate, 1941.  
Ethyl fluor-stearate, 1941.  
Ethyl furoate, 2000.  
—, constants, 1997.  
—, dilution ratios, 1997.  
—, solubility resins in, 1997.  
Ethyl gallate, 1938.  
Ethylglucose, 2.  
Ethylglucose acetate, 1368.  
Ethylglucoside, 2, 1508.  
*b*-Ethylglucoside, 2.  
Ethyl glutarate, 1953.  
Ethyl-*d*-glycerate, 1954.  
*mono*-Ethyl-glycerol, cellulose ether solvent, 172.  
Ethyl glycerol chlorhydrin, cellulose acetate plastic, 444.  
Ethyl glycerylchlorhydrin, 1857.  
—, cellulose acetate plastifier, 508.  
Ethylglycid ether, 1857, 1886, 1894.  
Ethylglycol, 1341, 1850, 1852, 1854, 1906, 1968, 1982.  
—, benzene and, cellulose ether solvent, 1802.  
—, benzyl abietate solvent, 1851.  
—, benzylcellulose solvent, 1851.  
—, cellulose acetate solvent, 2398, 2435.  
—, cellulose ester solvent, 57.  
—, cellulose ether softener, 2134.  
—, cellulose ether solvent, 57.  
—, cloth, tracing, made with, 163, 2542.  
—, dammar solvent, 1851.  
—, elemi solvent, 1851.  
—, ethylbutylcellulose and for lacquer mfr., 2426.  
—, ethylcellulose solvent, 1851.  
—, glass, window, made using, 2553.  
—, lacquer containing, 2393, 2394, 2400, 2420, 2424, 2428.  
—, mastic solvent, 1851.

- Ethylglycol, methylbutylcellulose and for lacquer mfr., 2426.  
—, methylcellulose solvent, 1851.  
—, pictures, transfer, made using, 2551.  
—, printing, intaglio, made using, 2551.  
—, sandarac solvent, 1851.  
—, tanning using, 2469.  
—, *see also Butylene glycol*.  
Ethylglycol acetate, 1852.  
—, cloth, tracing, made using, 2542.  
—, flash point, 2061.  
—, lacquer mfr., using, 2394, 2413.  
—, printing, intaglio, made using, 2551.  
Ethylglycol caprate, 1939.  
Ethylglycol caproate, 1939.  
Ethylglycol ether, 1853.  
*mono*-Ethylglycol ether, 885.  
*mono*-Ethylglycol ether acetate, 885.  
Ethyl glycolate, 1693, 1941.  
—, cellulose acetate plasticizer, 436.  
—, ethyl ether, 1942.  
Ethylglycol laurate, 1939.  
Ethylglycollic acid, 1720.  
Ethylglycol acetate, tracing cloth made with, 163.  
Ethylglycol linoleate, 1939.  
Ethylglycol margarate, mfr., 2643.  
Ethylglycol oleate, 1939.  
—, mfr., 2643.  
Ethylglycol palmitate, 1939.  
—, mfr. of, 2643.  
Ethylglycol phosphate, 1897.  
Ethylglycol phthalate, 1975.  
Ethylglycol ricinoleate, 1939.  
Ethylglycol stearate, 1939.  
—, mfr. of, 2643.  
Ethyl hemp, mfr. of, 293.  
Ethyl hexahydrobenzoate, 1965.  
—, *see also Ethyl naphthenate*.  
Ethylhexoses, acetylated, 73.  
Ethylhexylacetic acid, 630.  
Ethylhexyl ketone, 1877.  
Ethyl hippurate, 1952.  
Ethylhydracrylic acid, 1954.  
Ethylhydrogen oxalate, 1947.  
Ethylhydrogen sulfate, 1416.  
Ethylhydroxyacetate, 1941.  
Ethyl hydroxyisobutyrate, 1936.  
Ethyl *a*-hydroxyisobutyrate, 1936.  
—, cellulose acetate solvent, 736, 801, 2401.  
—, cellulose ether solvent, 2401.  
Ethyl *a*-hydroxyisobutyrate, cellulose nitrate solvent, 2401.  
—, mfr. of, 2401.  
Ethyl *b*-hydroxypropionate, 1933.  
Ethyl hydroxysuccinate, 1949.  
Ethylidene acetate, 1922, 1923.  
Ethylidene acetobenzoate, 1922.  
—, cellulose acetate solvent, 444.  
Ethylidene acetone, 1988.  
—, cellulose acetate solvent, 453.  
—, cellulose ether solvent, 213.  
—, filament, hollow, made using, 213, 2365.  
Ethylidene butyrate, 1923.  
Ethylidene chlorhydrin, cellulose acetate filaments made using, 531.  
—, cellulose acetate plastic, 444.  
—, cellulose acetate plasticizer, 429.  
*Ethylidene chloride*, *see Dichloroethane*.  
Ethylidene diacetate, 1922, 1995.  
—, acetaldehyde from, mfr., 457, 473, 868, 916, 1040.  
—, acetic acid made using, 578.  
—, acetic anhydride mfr. from, 441, 457, 577, 578, 690, 868, 916, 1040, 1049.  
—, cellulose acetate plastifier, 563.  
—, cellulose acetate solvent, 444.  
—, lacquer containing, 2396.  
—, mfr. of, 483, 563, 568, 583, 720, 855.  
—, phosphoric acid made using, 690.  
—, purifying, 946.  
*Ethylidene diethyl ether*, *see Acetal*.  
*Ethylidene diethylic ether*, *see Acetal*.  
*Ethylidenedimethylether*, *see Dimethyl-acetal*.  
Ethylidenediphenol, 1860.  
—, carboxyalkyl ethers of, 1810.  
Ethylidenediphenol phosphate, cellulose acetate plastifier, 533.  
Ethylidenediphenylethane phosphate, 1810.  
Ethylidenediphenylethane *p*-toluenesulfonate, 1810.  
Ethylidene dipropionate, 1995.  
Ethylidene esters, mfr., 563.  
Ethylideneglycol ether, 1857, 1886, 1894.  
Ethylideneglycollic ether, 1874.  
Ethylidenemethylglycerol, 1497.  
Ethylidene propionate, 1922.

- Ethylidenepropylene ether, 1857, 1886, 1894.  
 Ethylidene trimethylene ether, 1857.  
 Ethylidene urethane, 1955.  
*Ethylic ether of phenol, see Phenetol.*  
 Ethylimide, cellulose ester dye, 305.  
 —, cellulose ether dye, 305, 2283.  
 Ethylin, lacquer containing, 2397.  
*mono-Ethylin, see Monoethylin.*  
 Ethyl inosite, stencil sheet containing, 109.  
 Ethylinulin, 44, 1160.  
 Ethyl iodide, 124, 1255, 1815.  
 —, amines solvent for, 2010.  
 —, cellulose alkylated with, 293.  
 —, cellulose ether solvent, 50.  
 —, cresol with as plastic, 561.  
 —, ethylating, 44.  
 —, flax alkylated with, 293.  
 —, formaldehyde with as plastic, 561.  
 —, hemp alkylated with, 293.  
 —, jute alkylated with, 293.  
 —, linen alkylated with, 293.  
 —, mfr. of, 1276.  
 —, properties, 1276.  
 —, solubility, 1276.  
 —, tar-oil with as plastic, 561.  
 Ethyl isoeugenol, cellulose ester softener, 970.  
 Ethyl jute, mfr. of, 293.  
 Ethyl ketone, 2041.  
 Ethyl lactate, 885, 1074, 1569, 1577, 1769, 1811, 1846, 1850, 1852, 1907, 1910, 1918, 1928, 1942, 1944, 1945, 1946, 1947, 1948, 1952, 1956, 1957, 1968, 1970, 1974, 1981, 2000, 2021, 2200, 2321, 2405.  
 —, benzylcellulose plastifier, 1579.  
 —, benzylcellulose solvent, 178, 293, 1553, 1555, 1588.  
 —, block, molded, made using, 162.  
 —, cellulose acetate plasticizer, 455, 460.  
 —, cellulose acetate precipitated by, 1043.  
 —, cellulose acetate relusted by, 600.  
 —, cellulose acetate sheets decorated using, 720.  
 —, cellulose acetate softener, 661.  
 —, cellulose acetate solvent, 422, 440, 738, 924, 944, 998, 1008, 1842, 2355, 2435.  
 Ethyl lactate, cellulose ester ink containing, 964.  
 —, cellulose ether softener, 2135, 2529.  
 —, cellulose ether solvent, 53, 93, 173, 2077, 2356.  
 —, delustring with, 2188.  
 —, dilution ratio, 1786, 1787.  
 —, ethylcellulose lacquer containing, 2408, 2411.  
 —, ethylcellulose solvent, 178, 293.  
 —, ethylcellulose xanthanilid solvent, 1644.  
 —, flash point, 2061.  
 —, floor covering made using, 2437.  
 —, glass, laminated, made using, 2586, 2590.  
 —, —, window, made using, 2553.  
 —, glass strengthened using, 799.  
 —, ink containing, 627, 2475.  
 —, ink, marking, containing, 2330.  
 —, luster preserving by, 2171.  
 —, mfr. of, 422, 580, 1068, 1943.  
 —, methylcellulose solvent, 178.  
 —, mother-of-pearl made using, 999.  
 —, paint containing, 825, 2544.  
 —, pearl essence made using, 2619.  
 —, phonograph record made using, 455.  
 —, physical constants, 1792.  
 —, plastic made using, 2559, 2560, 2561, 2563, 2579.  
 —, plate, acoustic, made using, 703.  
 —, record, phonograph, made using, 162.  
 —, relustring with, 216, 2199.  
 —, shellac solvent, 627.  
 —, uses, 1943.  
 Ethyl laurate, 1746.  
 —, cellulose combined with, 228.  
 Ethyl levulate, 1935.  
 Ethyl levulinate, 1934, 1935, 1952, 1993.  
 —, cellulose ether solvent, 1841.  
 —, ethylcellulose solvent, 19.  
 —, starch ether solvent, 1483.  
 Ethyl-lignin, 1631.  
 —, mfr. of, 233, 296, 1627.  
 Ethyl linen, mfr. of, 293.  
 Ethyl linoleate, 1938.  
 Ethyl magnesium bromide, 1236.  
 Ethyl malate, 1949, 1952.  
 —, mfr., 580, 1949.  
 Ethyl maleate, 1952.  
 —, mfr. of, 580, 1949.

- Ethyl malonate, 964, 1948.  
—, amines solvent for, 2010.  
Ethyl mandelate, 1966.  
—, cellulose acetate plastifier, 994.  
Ethyl *p*-mandelate, 1967.  
Ethyl margarate, cellulose ether coagulant, 2097.  
Ethyl mesitylenate, 1952.  
Ethyl methyladipate, 1989.  
Ethyl *a*-methyladipate, 1953.  
Ethyl *b*-methyladipate, 1953.  
Ethyl methylisobutylacetate, cellulose ester plasticizer, 241.  
—, cellulose ether plasticizer, 241.  
Ethylmethyldiphenylurea, 2030.  
Ethylmethylene ether, 1845.  
*Ethylmethylethylene*, see *Amylene*.  
*Ethylmethyl ketone*, see *Methyl acetone*.  
Ethylmethyloxyphenyl sulfonate, 2034.  
Ethylmethyl propylacetate, 1915, 1916.  
—, cellulose ester plasticizer, 241.  
—, cellulose ether plasticizer, 241.  
Ethyl methylpropylacetic acid, 1916.  
Ethyl monochloracetate, 1942.  
—, cellulose ether made using, 250.  
—, cellulose treated with, 250.  
—, mfr., 482.  
Ethyl mucate, 1952.  
Ethyl monosilicate, 1909.  
Ethyl mustard oil, 1641.  
—, see also *Ethyl isothiocyanate*.  
Ethyl naphthenate, 1965.  
—, acetic acid extracted using, 1016.  
Ethyl naphthol, 1769.  
—, ether of, cellulose acetate plastifier, 452.  
Ethyl naphthol-alcohol, ethylcellulose xanthanilid solvent, 1644.  
Ethyl 1.4-naphtholcarboxylate, 1088.  
Ethyl naphthylamine, 2014.  
Ethyl-*a*-naphthylamine, cellulose acetate dyed using, 610, 647.  
—, cellulose ether solvent, 106, 2287.  
Ethyl-*b*-naphthylamine, cellulose acetate dyed using, 610, 647, 809.  
—, cellulose ether dyed using, 2275.  
Ethyl-2-naphthylamine, cellulose ether dyed using, 275, 2257.  
Ethyl-1-naphthylamine-8-sulfonate, cellulose ether dyed using, 2273.  
Ethyl naphthyl ether, 1871.  
Ethyl-*b*-naphthyl ether, 1956, 1969.  
Ethyl naphthyl sulfonate, 2034.  
Ethyl nitrate, 1908, 1956.  
Ethyl nitrite, 1908.  
—, cellulose acetate hydrolyzed using, 1014.  
—, ethyl sulfate made using, 1287.  
Ethyl nitrobenzylcellulose, 1609.  
—, mfr. of, 237.  
Ethyl nitrobenzylcellulose acetate, mfr. of, 237.  
Ethyl nitronaphthyl sulfonate, 2034.  
Ethyl nitrotoyl sulfonate, 2034.  
*Ethyl octoate*, see *Ethyl caprylate*.  
Ethylform, 1275.  
Ethyl oleate, 1820, 1938, 1964.  
—, cellulose acetate solvent, 1818, 1819.  
—, cellulose ester coagulated by, 133.  
—, cellulose ether coagulated by, 133, 170, 2086, 2097.  
—, filament cleaned by, 257.  
—, film cleaned by, 257.  
—, ribbon cleaned by, 257.  
—, thread cleaned by, 257.  
Ethyl orthoformate, celluloid solvent, 890.  
—, cellulose acetate solvent, 890, 1785.  
Ethyl oxalate, 1942, 1944, 1947, 1948, 1952, 1967, 2184.  
—, amines solvent for, 2010.  
—, celluloid solvent, 890.  
—, cellulose acetate delustred by, 828.  
—, cellulose acetate precipitated by, 1043.  
—, cellulose acetate solvent, 890, 1785.  
—, cellulose ether solvent, 93.  
—, ink, marking, containing, 2330.  
—, ink containing, 627.  
—, mfr., 580.  
—, shellac solvent, 627.  
Ethyl oxalic acid, 1947.  
Ethyl oxamate, 1948.  
Ethyl oxybutyrate, 885, 1936, 2321.  
—, benzylcellulose solvent, 1588.  
—, cellulose acetate plastifier, 1018.  
—, cellulose acetate solvent, 801.

- Ethyl oxybutyrate, paper, decalcomania, made using, 2552.  
 Ethyl oxynaphthylamine, 1979.  
 Ethyl palmitate, 1938, 1940, 1941, 1944, 1947, 1957, 1971.  
 —, cellulose acetate plasticizer, 342.  
 —, cellulose ester coagulated by, 133.  
 —, cellulose ether coagulated by, 133, 170, 2086, 2097.  
 —, properties, 732.  
*mono*-Ethylpentaerythritol, cellulose ester plasticizer, 305.  
 —, cellulose ether plasticizer, 305.  
 —, cellulose ether solvent, 222.  
 —, plasticizer, 305.  
 Ethyl pentaethyleneglycol, cellulose acetate solvent, 801.  
*mono*-Ethylpentylbenzene, cellulose ester plasticizer, 303.  
 —, cellulose ether plasticizer, 303.  
 Ethylpentyl ketone, 1877.  
 Ethyl phenate, *see* *Phenetol*;  
     *Phenylethyl ether*.  
*o*-Ethyl-phenol, *see* *Phlorol*.  
 Ethyl phenoxylacetate, 1942.  
 Ethyl *b*-phenoxylbutyrate, 1942.  
 Ethyl *a*-phenoxylpropionate, 1942.  
 Ethylphenyl carbamate, 1957.  
 —, *see also* *Phenylurethane*.  
 Ethylphenylcellulose, 1612.  
 —, stencil sheet made using, 2494.  
 Ethylphenyl ether, 1870.  
 Ethyl-phenylglycine, 1893.  
 Ethyl-phenylglycollate, 1966.  
 Ethylphenylhydroxyacetate, 1966.  
 Ethyl phenylmalonate, 1952.  
 Ethyl phenyl oxide, *see* *Phenetol*.  
 Ethyl phenylsulfonacetate, 2001.  
 —, cellulose acetate plasticizer, 464.  
 —, cellulose ether softener, 80.  
 Ethylphenyl sulfonate, 2034.  
 Ethylphenyl sulfone, 2001.  
 Ethylphenyl urea, 1956.  
 Ethylphenyl urethane, 1956.  
 Ethyl phosphate, 1952.  
 Ethyl phthalamine, 1978.  
 Ethyl phthalate, 1084, 1090, 1091, 1572, 1794, 1811, 1923, 1930, 1944, 1945, 1947, 1952, 1957, 1960, 1967, 1968, 1969, 1970, 1974, 1976, 1978, 2041.  
 —, benzylcellulose plasticizer, 295.  
 —, cellulose acetate plasticizer, 342, 938, 1011.  
 —, cellulose acetate softener, 930, 939.  
 Ethyl phthalate, cellulose acetate solvent, 813.  
 —, cellulose acetate solvent mixture containing, 574.  
 —, cellulose ether solvent, 52, 1841.  
 —, conductor, electric, containing, 2442.  
 —, ethylcellulose solvent, 19.  
 —, film made using, 2505, 2506, 2519, 2527, 2560.  
 —, lacquer mfr. using, 2394.  
 —, record, phonograph, containing, 2604.  
 —, starch ether solvent, 1483.  
 —, uses, 1969.  
 Ethyl isophthalate, *see* *Ethyl phthalate (a)*.  
 Ethyl *o*-phthalate, acetic acid extracted using, 1016.  
 Ethyl *o*-phthalonate, 1978.  
 Ethyl pimelate, 1939, 1953.  
 Ethyl piperidine, cellulose acetate hydrolyzed using, 958.  
 —, cellulose combined with, 228.  
 Ethyl polyacrylate, 1078.  
 Ethyl propionate, 70, 1932, 1933, 1935, 2001, 2027.  
 —, benzylcellulose solvent, 1555.  
 —, cellulose acetate plastifier, 575.  
 —, cellulose ether solvent, 53.  
 —, engine fuel containing, 1910.  
 —, ethylalcohol and cellulose ether solvent, 97.  
 —, mfr., 457, 492.  
 —, methyl alcohol and cellulose ether solvent, 97.  
 —, propionic acid solvent, 916, 1008.  
 —, propyl alcohol and cellulose ether solvent, 97.  
 Ethyl *n*-propionate, flash-point, 2061.  
 Ethylpropionyl, *see* *Diethylketone*.  
 Ethylpropionylanilid, 2026.  
 Ethyl propionyl naphthoate, cellulose acetate plastifier, 550.  
 Ethyl propionyl-oxyoleate, 1939.  
 Ethyl propionyl-oxystearate, 1939.  
 —, camphor substitute, 2051.  
 Ethyl propionyl ricinoleate, 1939.  
 —, camphor substitute, 2051.  
 Ethyl propionyl salicylate, 1963, 2027.  
 —, camphor substitute, 2051.  
 —, cellulose acetate plastifier, 550.  
*mono*-Ethylpropylbenzene, cellulose ester plasticizer, 303.



- mono*-Ethylpropylbenzene, cellulose ether plasticizer, 303.  
 Ethylpropylbutylcellulose, mfr., 1611.  
 Ethylpropylcellulose, lacquer containing, 288, 2425.  
 —, mfr., 100, 238, 1338, 1606.  
 Ethylpropylene glycol, 1853.  
 —, cellulose acetate plastifier, 620.  
*mono*-Ethylpropyleneglycol, cellulose acetate solvent, 968.  
 —, cellulose nitrate solvent, 968.  
 Ethylpropylene glycol ether, cellulose acetate solvent, 665.  
 Ethylpropylketone, 1877.  
 Ethylpropyl malonate, 1948.  
 Ethylpropylmethacrylate, 1915.  
 Ethylpropyloxyphenyl sulfonate, 2034.  
 Ethylpropyl starch, mfr., 100, 1298.  
 Ethylpropyl sulfate, cellulose etherified using, 1298.  
 —, etherifying with, 100.  
 —, properties, 1290.  
*Ethylpyridine*, see *b*-*Lutidine*.  
 Ethyl quercite, stencil sheet containing, 109.  
 Ethylrhannoside, 1508.  
 Ethylricinoleate, 1938.  
 Ethylsalicylate, 1944, 1947, 1952, 1957, 1963, 2022.  
 Ethyl sebacate, 1869, 1937, 1939, 1952, 1953, 1962, 1963, 1978.  
 —, cellulose acetate plasticizer, 342.  
 —, cellulose ether solvent, 1841.  
 —, ethylcellulose solvent, 19.  
 —, starch ether solvent, 1483.  
 Ethyl silicate, 1982, 2058, 2163.  
 —, melting point of cellulose acetate raised by, 762.  
 Ethyl starch, 1489.  
 —, applications, 1488.  
 —, cable, insulating, made with, 86.  
 —, celluloids made with, 86.  
 —, emulsion containing, 1569.  
 —, leather, artificial, made with, 86.  
 —, mfr. of, 100, 101, 236, 240, 416, 1486, 2496.  
 —, naphtha solvent plasticizer for, 86.  
 —, plastic made using, 2581.  
 —, stencil sheet made with, 96, 109.  
 —, tumors treated with, 2447.  
 —, uses, 1488.  
 Ethylstarch abietate, 1489.  
 —, mfr. of, 236.  
 Ethyl starch benzoate, 1489.  
 —, mfr. of, 236.  
 Ethylstarch laurate, 1489.  
 —, mfr. of, 236.  
 Ethylstarch linoleate, 1489.  
 —, mfr. of, 236.  
 Ethylstarch oleate, 1489.  
 —, mfr. of, 236.  
 Ethylstarch palmitate, 1489.  
 —, mfr. of, 236.  
 Ethylstarch phenylacetate, 1489.  
 —, mfr. of, 236.  
 Ethylstarch salicylate, 1489.  
 —, mfr. of, 236.  
 Ethylstarch stearate, 1489.  
 —, mfr. of, 236.  
 Ethylstarch undecylenate, 1489.  
 —, mfr. of, 236.  
 Ethylstearate, 1936, 1944, 1947, 1957.  
 —, cellulose ester coagulated by, 133.  
 —, cellulose ether coagulated by, 133, 170, 2086, 2097.  
 —, filament cleaned by, 257.  
 —, film cleaned by, 257.  
 —, properties, 732.  
 —, ribbon cleaned by, 257.  
 —, thread cleaned by, 257.  
 Ethylstyrene, 1889.  
 Ethyl suberate, 1939, 1953.  
 Ethyl succinate, 1930, 1952, 1967.  
 —, cellulose acetate precipitated by, 1043.  
 —, cellulose acetate solvent, 587.  
 —, cellulose ether solvent, 53, 1841.  
 —, mfr., 580, 1949.  
 —, starch ether solvent, 1483.  
*n*-Ethyl succinate, see *Ethyl disuccinate*.  
 Ethyl succinylsuccinate, 1952.  
 Ethylsulfate, 38, 39, 83, 91, 124, 171, 223, 224, 1259, 1416, 1424, 1431, 1433, 1469, 1537, 1725, 2059, 2493.  
 —, amines solvent for, 2010.  
 —, cellulose alkylated with, 293.  
 —, cellulose etherified by, 30.  
 —, cellulose ethylated by, 17, 20, 21, 24, 1441.  
 —, etherifying with, 1414, 1417.  
 —, ethylating by, 44.  
 —, flax alkylated with, 293.  
 —, hemp alkylated with, 293.  
 —, jute alkylated with, 293.  
 —, lacquer, black, made using, 2414.  
 —, linen alkylated with, 293.

- Ethylsulfate, mfr., 1282.  
—, methylation with, 1250.  
—, preparation, 1282.  
—, properties, 1280.  
—, solubility, 1281.  
—, toxicity, 1288.  
—, uses, 1287.  
*Ethyl(mono)sulfate*, see *Ethylsulfuric acid*.  
Ethylsulfatoethylaniline, cellulose acetate dyed using, 611, 612.  
*Ethylsulfhydrate*, see *Ethyl mercaptan*.  
*N-Ethyl-N-sulfobenzyl-3-toluidine*, cellulose acetate dyed using, 676.  
*Ethyl (di)sulfonemethylethylmethane*, see *Trional*.  
Ethylsulfochloride, 1685.  
Ethylsulfonic acid, 1731.  
—, cellulose acetate toughened by, 866.  
Ethyl sulfuric acid, 1259, 1700.  
—, acetic acid made using, 1001.  
—, catalyst in cellulose acetating, 390, 396.  
—, see also *Ethyl hydrogen sulfate*.  
Ethyl tannate, 1938.  
Ethyl tartrate, 1083, 1572, 1811, 1942, 1944, 1947, 1952, 1968, 1989.  
—, benzylcellulose plasticizer, 295.  
—, cellulose acetate plastifier, 938.  
—, cellulose acetate precipitated by, 1043.  
—, cellulose acetate swelled by, 553.  
—, cellulose acetate solvent, 1842.  
—, cellulose ether solvent, 1841.  
—, conductor, electric, containing, 2442.  
—, ethylcellulose solvent, 19.  
—, mfr., 580.  
—, starch ether solvent, 1483.  
*n-Ethyl tartrate*, see *Ethyl tartrate*.  
*Ethyl terephthalate*, see *Ethyl phthalate (p)*.  
Ethylthiocellobiose hepta-acetate, 733.  
Ethylthiocellobioside, 733.  
Ethyl isothiocyanate, 2628.  
Ethylthiodiglycol, 1839.  
Ethylthioglycollate, 1941.  
Ethylthiolanthraquinone, cellulose ester dyed with, 195.  
—, cellulose ether dyed with, 195.  
Ethylthiourethane, 125.  
Ethyl toluate, 1952.  
Ethyltoluenesulfonamid, 2022, 2089.  
—, cable insulated using, 855.  
—, cellulose ether plastifier, 146.  
—, hollow filaments produced using, 2365.  
Ethyl *m*-toluenesulfonamid, cellulose ether plastifier, 146, 1371.  
Ethyl-*p*-toluenesulfonamid, cellulose acetate plastifier, 618.  
—, cellulose acetate solvent, 407, 471.  
—, delustring with, 2188.  
*p*-Ethyltoluenesulfonamid, 2022, 2037, 2038, 2041, 2042, 2043.  
—, cellulose acetate solvent, 469, 470, 471.  
Ethyltoluenesulfonamid-formaldehyde resin, 996.  
*N*-Ethyl toluene-*p*-sulfonanilid, cellulose ether plastifier, 175.  
Ethyl *p*-toluenesulfonate, 1255, 1652, 1928, 2034, 2042.  
—, cellulose etherified using, 1298.  
—, flash point, 2061.  
Ethyltoluenesulfone, cellulose acetate plasticizer, 464.  
—, cellulose ether softener, 80.  
Ethyl *o*-toluenesulfonic acid, cellulose ether plasticizer, 174.  
Ethyl *p*-toluenesulfonic acid, cellulose ether plasticizer, 174.  
Ethyl *o*-toluidine, 2014, 2017.  
*mono*-Ethyltoluidine, cellulose xanthate dissolved by, 132.  
Ethyl *p*-toluolsulfamid, cellulose acetate plastifier, 798.  
*p*-Ethyltoluolsulfonamid, cellulose acetate solvent, 1843.  
Ethyltolyl sulfonate, 2034.  
Ethyltolylsulfone, 2001.  
Ethyl-*o*-tolyl urethane, 1956.  
Ethyl tragacanth, 44.  
Ethyl triacetyloxystearate, camphor substitute, 2051.  
Ethyl tribenzoyloxystearate, camphor substitute, 2051.  
Ethyl trichloracetate, celluloid solvent, 890.  
—, cellulose acetate solvent, 890, 1785.  
Ethyl 2.4.6-trichlorophenoxyacetate, 1991.  
Ethyl triethyleneglycol, 1847.  
Ethyl triethyleneglycol caprate, 1847.

- Ethyl triethyleneglycol caproate, 1848.  
 Ethyl triethyleneglycol laurate, 1848.  
 Ethyl triethyleneglycol linoleate, 1848.  
 Ethyl triethyleneglycol oleate, 1848.  
 Ethyl triethyleneglycol palmitate, 1848.  
 Ethyl triethyleneglycol ricinoleate, 1848.  
 Ethyl triethyleneglycol stearate, 1848.  
 Ethyl triformyloxystearate, camphor substitute, 2051.  
 Ethyl trimesate, 1952.  
 Ethyl trimethyl saccharate, mfr. of, 79.  
 Ethyl tripropionyloxystearate, camphor substitute, 2051.  
 Ethyl-tri-(trihydroxyethyl)cellulose, mfr. of, 197.  
 Ethylurea, ethylcellulose gelatinizer, 48.  
 —, record, phonograph, made using, 2605.  
*mono*-Ethyl urea, cellulose acetate plastifier, 634.  
 —, cellulose acetate solvent, 453.  
*Ethylurethane*, see *Urethane*.  
 Ethyl valerianate, 1938.  
 Ethyl isovalerianate, 269.  
 Ethylvalerylanylil, 2026.  
 Ethyl-*p*-xylene, 1806.  
 Ethyl *p*-xylene sulfonamide, delustring with, 2188.  
 Ethylxylenesulfone, cellulose acetate plasticizer, 464.  
 —, cellulose ether softener, 80.  
 Ethylxylylcellulose, mfr., 1612.  
 Ethylxylylsulfonate, 2034.  
 Ethyl xylylsulfone, 2001.  
 Ethyl-*m*-xylylsulfone, 2001.  
 Ethyl zinc ethylate, delustring with, 2181.  
 Ethyl zinc methylate, delustring with, 2181.  
 Eucalyptol, 1964.  
 —, see also *Cineol*.  
 Eucalyptol oil, cellulose acetate solvent, 1818, 1819.  
 Eucalyptus oil, 2044.  
 —, cellulose acetate solvent, 1818, 1819.  
*Euchromic acid*, see *Euchroic acid*.  
*Eucol*, see *Guaiacol acetate*.  
*Eucolum*, see *Guaiacol acetate*.  
*Eugenic acid*, see *Eugenol*.  
 Eugenol, 1769, 1861, 1862, 1930, 1960, 1964, 2027, 2032, 2045.  
 —, airplane coated with, 2484.  
 —, amyl lactate and, cellulose ether solvent, 93.  
 —, amyl oxalate and, cellulose ether solvent, 93.  
 —, butyl lactate and, cellulose ether solvent, 93.  
 —, butyl oxalate and, cellulose ether solvent, 93.  
 —, cellulose acetate plastifier, 628.  
 —, cellulose acetate solvent, 445, 580, 582, 1818, 1819.  
 —, cellulose ether solvent, 93.  
 —, ethylcellulose xanthanilid solvent, 1644.  
 —, ethyl lactate and, cellulose ether solvent, 93.  
 —, ethyl oxalate and, cellulose ether solvent, 93.  
 —, lacquer containing, 727.  
 —, methyl lactate and, cellulose ether solvent, 93.  
 —, methyl oxalate and, cellulose ether solvent, 93.  
 —, propyl lactate and, cellulose ether solvent, 93.  
 —, propyl oxalate and, cellulose ether solvent, 93.  
*iso*-Eugenol, see *Isoeugenol*.  
 Eugenol acetate, cellulose ester softener, 970.  
 Eugenol formate, cellulose ester softener, 970.  
*Euguform*, see *Acetylated guaiaciform*.  
 Eulers' formula, 808.  
*Euonymit*, see *Dulcit*.  
 Euparal, 898.  
 Euresol, 2446.  
*Eusolvan*, see *Ethyl lactate*.  
*Euxanthin*, see *Euxanthic acid*.  
 Exalgin, 2022.  
*Evernia vulpina*, 1161.  
 Explosive, cellulose acetate as component of, 395.  
 —, cellulose benzoate for, 1734.  
 —, cellulose nitrate as component of, 395.  
 —, dinitroacetyl glycerol as component of, 395.  
 —, hemicellulose in, 1182.  
 —, mfr. of, benzylcellulose in, 2470.  
 —, —, ethylcellulose in, 2470.

- Explosive, propellant, cellulose acetate in mfr., 576.  
—, *stability of*, see *Stability tests*.  
—, trinitrotoluene as component of, 395.  
—, see also *Cellulose nitrate*;  
*Smokeless powder*.  
*Explosive cotton*, see *Cellulose nitrate*.  
Explosive industry, cellulose ether in, 2470.  
Extensibility, cellulose ester filament increased, 226.  
—, cellulose ether filament increased, 226.  
—, see also *Viscosity*.
- Fabric, acetylating, 476, 488.  
—, acetylating superficial, 340.  
—, acylating, 990.  
—, aircraft, cellulose acetate for, 920.  
—, airplane, acetone in mfr., 485.  
—, —, acetylating, 488.  
—, —, benzene in mfr., 485.  
—, —, benzyl alcohol in mfr., 485.  
—, —, borated benzol in mfr., 485.  
—, —, cellulose acetate coated, 415, 443, 485, 512.  
—, —, —, solvent recovery from, 514.  
—, —, coated, mfr., 472.  
—, —, coating, cellulose acetate for, 464, 481, 483, 484, 1689.  
—, —, fireproofing, 566, 572.  
—, —, lacquer, cellulose ester for, 449.  
—, —, mfr. of, cellulose acetate in, 485.  
—, —, tautening, 571.  
—, —, —, cellulose acetate for, 449, 464.  
—, —, waterproofing, 571.  
—, amine-furfuraldehyde for coating, 741.  
—, ammonium oxalate in printing of, 279.  
—, ammonium vanadate in printing of, 279.  
—, antimony trichloride in coating, 491.  
—, aviation, mfr., 430.  
—, balloon, casein in mfr., 891.  
—, —, cellulose acetate in mfr., 891.  
—, —, cellulose acetate for coating, 394, 459, 549, 2482.
- Fabric, balloon, cellulose acetate for impregnation of, 440.  
—, —, cellulose nitrate for coating, 2482.  
—, —, gelatin in mfr., 891.  
—, —, gelatin as coating for, 459, 549.  
—, —, glycerol in mfr., 891.  
—, benzylcellulose, carbonizing, 1583.  
—, —, gasproofing, 1583.  
—, —, loading, 1583, 1590.  
—, —, pattern effects on, 1578.  
—, —, stiffening, 2219, 2353.  
—, —, waterproofing, 1583, 2157.  
—, benzylcellulose for protecting, 297.  
—, caoutchouc for waterproofing, 482.  
—, carbonizing, 743, 2203.  
—, cellulose, embossing, 765.  
—, cellulose acetate, 592.  
—, —, *alternia* growth on, 965.  
—, —, *aspergillus* growth on, 965.  
—, —, calendering, 818.  
—, —, cellulose nitrate and, 628.  
—, —, cleaning, 1072.  
—, —, coalescing, 935.  
—, —, colored effect on, 787.  
—, —, compacting 935.  
—, —, cotton and, 562.  
—, —, creasing, 1001.  
—, —, dampening, ethylene dichloride for, 603.  
—, —, delustring, 738, 788.  
—, —, designs on, 1009.  
—, —, desizing, 578, 746, 921.  
—, —, discharge effects on, 767, 852, 853.  
—, —, discharge printing on, 738.  
—, —, discharging, 787.  
—, —, dyeing, 603, 708, 739, 752, 855, 873, 921, 967, 1001, 2347.  
—, —, —, uniform, 749.  
—, —, embossing, 738, 952.  
—, —, faults in, 927.  
—, —, finishing, 921.  
—, —, fraying, preventing, 603.  
—, —, *fusarium* growth on, 965.  
—, —, glazing, 2343.  
—, —, immunized cotton with, 1009.  
—, —, impermeability of, increasing, 2353.  
—, —, ironing, 818.  
—, —, ironing temperature, raising, 740, 742, 744.  
—, —, iron-proofing, 762.

Fabric, cellulose acetate, joining, 935.

- , —, knitted, dyeing, 937.
- , —, laddering, reducing, 766.
- , —, lining from, 762.
- , —, loading, 635, 636.
- , —, luster, increasing, 1099.
- , —, lustring, 921.
- , —, mfr., 523, 765, 855, 952.
- , —, marking, ink for, 603.
- , —, matt effect on, 745.
- , —, micelle orientation, 921.
- , —, mordanting, 852, 921.
- , —, *mucor* growth on, 965.
- , —, non-fraying, mfr., 838.
- , —, opacifying, 748.
- , —, ornamenting, 608.
- , —, pattern effect on, 616, 640, 745, 774, 962, 1082, 2346.
- , —, *penicillium* growth on, 965.
- , —, pile, mfr., 608.
- , —, plastic, 841.
- , —, pleating, 602, 862.
- , —, pressing, 952.
- , —, printing on, 608, 635, 649, 656, 711, 716, 752, 764, 765, 940, 967, 1027.
- , —, properties, enhancing, 860.
- , —, raveling, preventing, 603.
- , —, *rhizopus* growth on, 965.
- , —, saponifying, 767, 768, 824, 850.
- , —, scouring, 921.
- , —, sealing, 603.
- , —, silk and, 952.
- , —, —, mfr., 620.
- , —, sizing, 701, 746.
- , —, stains on, removing, 755.
- , —, stencilling, 752.
- , —, sticking point, increasing, 952.
- , —, stiffening, 952.
- , —, stretching, 921.
- , —, three-color effects on, 679.
- , —, treating, 655.
- , —, ultra-violet light through, 625.
- , —, viscose and, dyeing, 600.
- , —, warping, 701.
- , —, washing, 739.
- , —, weaving, 701.
- , —, white effect on, 787.
- , —, winding, 701.
- , —, wool and, dyeing, 600.
- , —, —, mfr., 620.
- , —, woven, dyeing, 937.
- , cellulose acetate coated, 415, 448, 537, 711, 2399.

Fabric, cellulose acetate coated, mfr., 404, 1006.

- , —, sunlight action on, 448.
- , cellulose acetate impregnated, 440, 812.
- , cellulose acetate recovery from, 489.
- , cellulose acetate union, printing on, 1000.
- , cellulose acetate nitrate and wool, 982.
- , cellulose butyrate, dyeing, 959.
- , —, loading, 959.
- , —, printing, 959.
- , —, stencilling, 959.
- , cellulose ester, calendering, 213.
- , —, elasticity increasing, 226.
- , —, embossing, 219, 271.
- , —, extensibility, increasing, 213.
- , —, laddering, preventing, 261.
- , —, ornamenting, 215.
- , —, pattern effect on, 749.
- , —, printing on, 215.
- , —, running, preventing, 261.
- , —, shrinking, 215, 216.
- , —, slipping, preventing, 261.
- , —, strength increasing, 226.
- , cellulose ether, calendering, 213.
- , —, coated, 127, 282.
- , —, creasing, preventing, 264.
- , —, cutting, 179.
- , —, delustring, 2194.
- , —, dividing, 179.
- , —, dyeing, 2347, 2351.
- , —, elasticity, increasing, 226.
- , —, embossing, 219, 271.
- , —, extensibility, increasing, 226.
- , —, glazing, 2343.
- , —, impermeability, increasing, 2353.
- , —, ironing, 213.
- , —, laddering prevented in, 105, 261.
- , —, ornamenting, 215.
- , —, padding, 2633.
- , —, parting, 179.
- , —, pattern effect on, 2346.
- , —, perforating, 179.
- , —, pleating, 2357.
- , —, printing on, 215, 244, 298, 2633.
- , —, shrinking, 215, 216.
- , —, slipping prevented in, 105, 261.
- , —, spraying, 2633.
- , —, stencilling, 2633.
- , —, stiffening, 270.

- Fabric, cellulose ether, strength, increasing, 226.  
—, —, trimming, 179.  
—, —, waterproofing, 2545.  
—, cellulose nitrate, cellulose acetate and, 628.  
—, cellulose propionate, loading, 959.  
—, chlorhydrins action on, 90.  
—, circular knit, embossing, 2639.  
—, coated, acetone in mfr., 1880.  
—, —, benzylcellulose for, 1590.  
—, —, cellulose acetate for, 726.  
—, coating, application for, 458.  
—, —, celluloid for, 458.  
—, —, cellulose acetate for, 458, 474, 489, 491, 741.  
—, —, durability, 648.  
—, —, proofing, 648.  
—, —, tautening, 648.  
—, cockle effect in, mfr., of, 260.  
—, colored, cellulose ether for, 140.  
—, compared, cellulose acetate, 936.  
—, composite, printing on, 2325.  
—, compound, dyeing, 2309.  
—, cotton, acetylated, 985.  
—, —, cellulose acetate and, 562.  
—, —, dyeing, 708.  
—, —, fraying, preventing, 2359.  
—, —, printing on, 1000.  
—, —, ravelling, preventing, 2359.  
—, creasing, preventing, 1001, 2357.  
—, crepe effect, producing, 302.  
—, creping, 1094.  
—, cresylic acid for coating, 489.  
—, delustring, 305.  
—, designs on, cellulose acetate for, 677.  
—, —, mfr., 2309.  
—, differential, benzylcellulose for, 2348.  
—, —, ethylcellulose for, 2348.  
—, —, methylcellulose for, 2348.  
—, —, viscose for, 2348.  
—, dirigible, cellulose acetate as coating for, 459, 549, 2482.  
—, —, cellulose nitrate for coating, 2482.  
—, —, gelatin as coating for, 459, 549.  
—, dividing, method for, 2360.  
—, dyeing, 271.  
—, —, benzylcellulose, 637.  
—, —, cellulose acetate, 637.  
—, —, ethylcellulose, 637.  
—, —, formylcellulose, 637.  
—, —, methylcellulose, 637.  
Fabric, edge, sealing, 1098, 2358.  
—, elastic, 2382.  
—, embossing, 219, 271, 2355, 2639.  
—, enameled, cellulose acetate, 685.  
—, etherifying, 85.  
—, ethylcellulose, coloring, 2324.  
—, —, loading, 1590.  
—, —, stiffening, 2219, 2353.  
—, —, waterproofing, 2157.  
—, ethylcellulose for protecting, 297.  
—, figured, producing, 2349.  
—, fireproof, borates for mfr. of, 432.  
—, —, cellulose acetate for mfr. of, 432.  
—, —, molybdates for mfr. of, 432.  
—, formylating, 476.  
—, fraying from, preventing, 2359.  
—, gas impermeable, cellulose acetate for, 440.  
—, gasproof, mfr., 2309.  
—, gasproofing, benzylcellulose for, 1583.  
—, —, cellulose acetate for, 488.  
—, gas retaining, mfr. of, 203.  
—, impregnating, cellulose ether for, 2473.  
—, ink for marking, 2325.  
—, insulating, mfr., cellulose ether for, 2441.  
—, ketone-furfuraldehyde for coating, 741.  
—, ketone-phenol-aldehyde for coating, 741.  
—, knit, repairing, 2361.  
—, knitted, cellulose acetate, shrinking, 851, 852.  
—, —, cementing, cellulose ether for, 208, 209.  
—, —, dyeing, 536.  
—, knitted embossed, ethylcellulose, 2356.  
—, —, methylcellulose, 2356.  
—, lacquer for, 2420.  
—, laddering, preventing, 261, 2350.  
—, linen, printing on, 1000.  
—, lining, cellulose acetate, 922.  
—, low visibility, cellulose acetate for, mfr., 453.  
—, lustering, cellulose acetate for, 342.  
—, —, mica for, 342.  
—, lustrous, cellulose ether for, 176.  
—, —, ethylcellulose for, 176.  
—, marking, ink for, 2325.  
—, matt effect on, 2180, 2352.

- Fabric, mending, cellulose ether for, 165.  
 —, mercerizing, 505.  
 —, meshed, benzylcellulose for coating, 2518.  
 —, —, ethylcellulose for coating, 2518.  
 —, —, methylcellulose for coating, 2518.  
 —, metal, cellulose acetate for coating, 885.  
 —, metallization of, 2361, 2363.  
 —, methylcellulose, stiffening, 2219, 2353.  
 —, —, waterproofing, 2157.  
 —,  $\alpha$ -methylcellulose in printing of, 279.  
 —, mixed, cellulose acetate dyeing, 852.  
 —, —, dyeing, 512, 2309.  
 —, —, printing on, 2343.  
 —, —, treating, 655.  
 —, —, vegetable fibers removed from, 631.  
 —, moisture-proof, cellulose acetate for, 488.  
 —, multicolored effects on, 2349.  
 —, non-crustable, 2332.  
 —, ornamenting, 2352, 2354, 2360.  
 —, ornamental, cellulose ether mfr., 2379, 2635.  
 —, parting, method for, 2360.  
 —, pattern on, cellulose acetate for, 784, 950.  
 —, pattern effects on, producing, 110, 2349.  
 —, pebble effect in, mfr. of, 260.  
 —, perforating, method for, 2360.  
 —, phenol-aldehyde for coating, 741.  
 —, phenol-furfuraldehyde for coating, 741.  
 —, photo effects on, 2346.  
 —, pile, 2358.  
 —, —, cellulose acetate, acetic acid for softening, 608.  
 —, —, —, acetone for softening, 608.  
 —, —, —, color effects on, 2380.  
 —, —, —, formic acid for softening, 608.  
 —, —, —, lactic acid for softening, 608.  
 —, —, —, mfr., 608, 827, 867, 2378.  
 —, —, cellulose ether, mfr., 261.  
 —, —, mfr. of, 2380.  
 —, —, printing on, 2344.  
 Fabric, pile, weaving, 951.  
 —, plain, printing on, 2344.  
 —, pleating, 2357, 2380.  
 —, printing, 271, 298, 2321.  
 —, —, benzylcellulose, 637.  
 —, —, cellulose acetate, 637.  
 —, —, discharge, 2317.  
 —, —, ethylcellulose, 637.  
 —, —, formylcellulose, 637.  
 —, —, methylcellulose, 637.  
 —, printing on, methylcellulose for, 199.  
 —, protecting, benzylcellulose for, 297, 1570, 2463.  
 —, —, cellulose ether for, 2462.  
 —, —, ethylcellulose for, 297.  
 —, ravelling from, preventing, 2359.  
 —, rayon, identifying, 593.  
 —, repairing, cellulose ether for, 165.  
 —, resin, synthetic, for coating, 741.  
 —, ribbed, ethylcellulose, mfr., 2342.  
 —, ribbons from, producing, 2359.  
 —, Roentgen ray impermeable, cellulose acetate for, 358.  
 —, —, collodion for, 358.  
 —, rot-proofing, cellulose acetate for, 588.  
 —, —, cellulose propionate for, 1698.  
 —, running, preventing, 261.  
 —, safe-ironing temperature raising, 2361.  
 —, Schreiner finish on, cellulose acetate for producing, 376.  
 —, scrooping, 2203.  
 —, selvage, plasticizing, cellulose acetate, 936.  
 —, shrinking, 851, 852.  
 —, silk, cellulose acetate and, mfr., 620.  
 —, —, fraying, preventing, 2359.  
 —, —, printing on, 1000.  
 —, —, ravelling, preventing, 2359.  
 —, sizing, 2359.  
 —, slipping, preventing, 261.  
 —, sodium chlorate in printing of, 279.  
 —, sodium leucoindigosulfonate in printing of, 279.  
 —, soil-proofing, 2159.  
 —, soilproof, cellulose acetate for mfr., 443.  
 —, stamping on, 2354.  
 —, stencilling, cellulose acetate, 637.

- Fabric, stencilling, ethylcellulose, 637.  
 —, —, formylcellulose, 637.  
 —, —, methylcellulose, 637.  
 —, sticking point of, increasing, 2361.  
 —, stiff, cellulose acetate, 604.  
 —, stiffening, cellulose acetate, 1089.  
 —, strengthening, 579.  
 —, sunlight action on, 436.  
 —, tautness, cellulose acetate for inducing, 460.  
 —, tautness in, cellulose acetate for, 447.  
 —, —, producing, 447.  
 —, tetrachlorethane for water-proofing, 482.  
 —, thermoplastic, sealing edges of, 2359.  
 —, tire, cellulose acetate in mfr. of, 431.  
 —, transparent, cellulose acetate, mfr., 453.  
 —, trimming, method for, 2360.  
 —, union, analysis, 810.  
 —, —, cellulose acetate in, dyeing, 684, 954.  
 —, —, dyeing, 512, 684, 708, 954, 964, 2309.  
 —, —, fraying, preventing, 2359.  
 —, —, printing on, 1000.  
 —, —, ravelling, preventing, 2359.  
 —, —, silk in mfr., 931.  
 —, velvet, cellulose acetate, mfr., 1041.  
 —, viscose and cellulose acetate dyeing, 600.  
 —, washable, borates for mfr. of, 432.  
 —, —, cellulose acetate for mfr. of, 432.  
 —, —, molybdates for mfr. of, 432.  
 —, waterproof, castor oil for, 713.  
 —, —, cellulose acetate for, 713.  
 —, —, cellulose nitrate for, 713.  
 —, —, mfr., 2309.  
 —, —, rapeseed for, 713.  
 —, waterproofing, 579, 2157.  
 —, —, benzylcellulose for, 1583.  
 —, —, cellulose acetate for, 482, 1690.  
 —, webs from, producing, 2359.  
 —, wire, mfr., 2553.  
 —, wool, cellulose acetate, and dyeing, 600.  
 —, —, —, mfr., 620.
- Fabric, wool, cellulose acetonitrile and, 982.  
 —, —, dyeing, 708.  
 —, —, fraying, preventing, 2359.  
 —, —, printing on, 1000.  
 —, —, ravelling, preventing, 2359.  
 —, woven, pile, printing, 715.  
 —, raised surface, printing, 715.  
 —, —, repairing, 2361.  
 —, —, *see also Textiles*.  
 Face protector, cellulose acetate for, 464.  
 Factis, fabric coated with, 2483.  
 Falling ball, method, viscosity determination, 2652.  
 Fanal Blue B, 885.  
 Fast red O, cellulose acetate dyed using, 672.  
 Fat, cellulose acetate combined with, 426.  
 —, cellulose acetate waterproofed by, 448.  
 —, cellulose nitrate combined with, 426.  
 —, determination, 2648.  
 —, stencil sheet made using, 2495.  
 —, sulfur chloride treated, 426.  
 Fats, animal, cellulose ether filaments lubricated by, 49.  
 —, cellulose acetate solvent, 1819.  
 —, ethylcellulose for emulsifying, 2136.  
 —, filaments, hollow, spun, using, 2367.  
 —, methylcellulose for emulsifying, 2136.  
 —, vegetable, cellulose ether filaments lubricated by, 49.  
 Fat soluble orange, cellulose acetate dyed by, 512.  
 Fatty acid, cellulose acetate waterproofed by, 448.  
 Feathers, *p*-aminodiphenylamine for dyeing, 715.  
 —, aniline for dyeing, 715.  
 —, *p*-phenylenediamine for dyeing, 715.  
 —, *o*-toluidine for dyeing, 715.  
 Feculoid, 900.  
 Feculose, 728, 900.  
 —, paper sized with, 489.  
 Fehling's solution, 36.  
 Felt, asphalt coated, 726.  
 —, asphaltum coated, 726.  
 —, cellulose acetate coated, 726.  
 —, cellulose acetate impregnated, 461.



- Felt, cellulose ether for impregnating, 2473.  
 —, stiffening, cellulose acetate, 1089.  
 —, toe stiffener made using, 630.  
 Fenchol, 2047.  
 —, cellulose ether plasticizer, 243.  
 —, ethylcellulose plasticizer, 151, 243.  
 —, plastic made using, 2578.  
 Fenchone, 1987, 2046, 2047.  
 Fenchyl alcohol, 2047.  
 Fenchyl phenylcarbamate, 2629.  
 Fennel chaff oil, 2044.  
 Fennel oil, 1964.  
 —, cellulose acetate solvent, 1818, 1819.  
 Fennel seed oil, 2044.  
 Fermine, 1968.  
 —, *see also* Di-methyl phthalate.  
 Ferric, *see* Iron (ic).  
 Ferric chloride, *see* Iron (ic) chloride.  
 Ferricyanide, hydrogen bisulfide oxidant, 148.  
 Ferrocyanic acid, *see* Ferrohydrocyanic acid.  
 Ferrous, *see* Iron (ous).  
 Ferrous sulfide, *see* Iron (ous) sulfide.  
 Fertilizer, component, peat for, 1165.  
 Fiber, aminobenzylated, 1598.  
 —, artificial, cellulose acetate for, 462.  
 —, —, differentiating, 920.  
 —, *asbestos*, *see* *Asbestos*.  
 —, cellulose acetate coated, 649, 2399.  
 —, cellulose acetate for mfr. of, 2523.  
 —, cellulose ester for mfr. of, 199.  
 —, cellulose ether for mfr. of, 199.  
 —, electric charge of, reducing, 921.  
 —, ethylcellulose for mfr. of, 2523.  
 —, ethylcellulose acetate for mfr. of, 2523.  
 —, ethylcellulose propionate for mfr. of, 2523.  
 —, nitrobenzylated, 1598.  
 —, staple, artificial, 1097.  
 —, —, *see* *Staple fiber*.  
 —, textile, electric charge of, reducing, 921.  
 —, vegetable, acetylating, 706.  
 —, —, carbonizing, 767.  
 Fiber, vulcanized, celluloid coated, 2438.  
 —, —, cellulose acetate coated, 2438.  
 —, —, coating, cellulose acetate for, 435.  
 —, —, *see also* *Vulcanized fiber*.  
 —, waterproofing, cellulose ether for, 2403.  
 Fiber board, linters in mfr. of, 1152.  
 Fibrit D, 2351.  
 —, cellulose acetate dyed using, 650.  
 Figuring, monochromatic, producing, 2350.  
 —, multicolored, producing, 2350.  
 Filament, artificial, benzylcellulose for, 1582.  
 —, —, benzylcellulose, coagulating, 259.  
 —, —, —, mfr., 259, 297.  
 —, —, cellular, cellulose ester for mfr., 217.  
 —, —, —, cellulose ether for mfr., 217.  
 —, —, —, cellulose acetate, 356, 744.  
 —, —, —, acetic acid recovery, 649.  
 —, —, —, bleaching, 560.  
 —, —, —, casein coated, 934.  
 —, —, —, coagulating, 259, 931, 932.  
 —, —, —, delustring, 656.  
 —, —, —, denier, reducing, 1020.  
 —, —, —, discharge effects on, 760.  
 —, —, —, drying, 734.  
 —, —, —, dyeing, 528, 529, 560, 727.  
 —, —, —, elongation, 680.  
 —, —, —, finishing, 560.  
 —, —, —, high stretch, mfr., 531.  
 —, —, —, hollow, mfr., 523, 804.  
 —, —, —, identification, 889.  
 —, —, —, lubricating, 722.  
 —, —, —, mfr., 259, 372, 403, 409, 424, 433, 447, 478, 498, 564, 581, 583, 604, 677, 693, 695, 721, 765, 814, 817, 820, 823, 869, 917, 931.  
 —, —, —, acetone recovery in, 947.  
 —, —, —, apparatus for, 442.  
 —, —, —, calcium chloride for, 670.  
 —, —, —, dressing, 784.  
 —, —, —, dry spinning, 816.  
 —, —, —, fine denier, 781.  
 —, —, —, rotary pump for, 500.

Filament, artificial, cellulose acetate, mfr., spinning chamber for, 774.

- , —, —, mordanting, 577.
- , —, —, olive oil lubricant, 823.
- , —, —, paraffin oil lubricant, 823.
- , —, —, precipitating, 548.
- , —, —, printing, 528, 649, 766.
- , —, —, properties, 695, 758.
- , —, —, quality of, 925.
- , —, —, rubber coated, 934.
- , —, —, sheen, augmenting, 679.
- , —, —, sizing, 696, 1015, 1016.
- , —, —, softening, 857.
- , —, —, solvent removal from, 854.
- , —, —, spinning, 642, 931, 932.
- , —, —, stencilling, 528.
- , —, —, strength of, 711.
- , —, —, stretching, 931.
- , —, —, swelling, 501.
- , —, —, tenacity, 680.
- , —, —, tire fabric from, 431.
- , —, —, tubular, mfr., 487.
- , —, —, uses, 680.
- , —, —, weaving, 766.
- , —, —, winding, 823, 840.
- , —, —, woolly effect on, 511, 760.
- , —, cellulose acetate coated, 375.
- , —, cellulose acetate resistance to wetting, 786.
- , —, cellulose acetonitrile, mfr., 496.
- , —, cellulose-acetophosphate, dyeing, *see* Dyeing.
- , —, cellulose buytrate for, 1702.
- , —, cellulose butyrate, coagulating, 259.
- , —, —, mfr., 259.
- , —, cellulose coated, 302.
- , —, cellulose ester, delustring, 274.
- , —, —, dry spinning of, 268.
- , —, —, elasticity increasing, 226.
- , —, —, extensibility increasing, 226.
- , —, —, mfr., 236, 269.
- , —, —, sizing, 282, 286.
- , —, —, spinning nozzle for, 249.
- , —, —, strength increasing, 226.
- , —, —, stretching, 235.
- , —, cellulose ether, 22, 49, 61.
- , —, —, aluminum oxide for delustring, 271.
- , —, —, apparatus for spinning, 159.

Filament, artificial, cellulose ether, augmenting strength of, 169.

- , —, —, barium phosphate for delustring, 271.
- , —, —, barium sulfate for delustring, 271.
- , —, —, calcium carbonate for delustring, 271.
- , —, —, calcium sulfate for delustring, 271.
- , —, —, coagulating, 262, 263.
- , —, —, delustring, 146, 271, 274.
- , —, —, dressing, 61.
- , —, —, drying, 168.
- , —, —, dry spinning, 108, 268.
- , —, —, dyeing, 171.
- , —, —, fugitive color, 172.
- , —, —, elasticity increasing, 226.
- , —, —, extensibility increasing, 226.
- , —, —, fine denier, mfr., 263.
- , —, —, hollow, 177.
- , —, —, horsehair, 177.
- , —, —, lead sulfate for delustring, 271.
- , —, —, lithium silicate for delustring, 271.
- , —, —, luster reduced, mfr., 181.
- , —, —, magnesium carbonate for delustring, 271.
- , —, —, magnesium silicate for delustring, 271.
- , —, —, mfr., 92, 101, 108, 114, 115, 126, 130, 140, 188, 236, 269, 289, 305.
- , —, —, apparatus for, 49, 100, 101, 212, 216, 275.
- , —, —, fine, 100.
- , —, —, mordanting, 168.
- , —, —, precipitating, 63.
- , —, —, silica for delustring, 271.
- , —, —, sizing, 61, 106.
- , —, —, spinning nozzle for, 249.
- , —, —, strength, improving, 266.
- , —, —, increasing, 152, 226.
- , —, —, strengthening, 255.
- , —, —, stretching, 235.
- , —, —, stretch-spinning, 191.
- , —, —, transparency, improving, 266.
- , —, —, weighting, 63, 168.
- , —, —, wet spinning, 109.
- , —, —, zinc carbonate for delustring, 271.
- , —, —, zinc oxide for delustring, 271.

- Filament, artificial, cellulose formate, coagulating, 259.  
 —, —, mfr., 259, 403.  
 —, —, cellulose nitrate, hollow, mfr., 804.  
 —, —, cellulose nitrate coated, 375.  
 —, —, cellulose propionate, coagulating, 259.  
 —, —, —, mfr., 259.  
 —, —, cellulose treating, 225.  
 —, —, coagulating, 2077, 2078.  
 —, —, coating, 203, 204, 302.  
 —, —, constants of, 653.  
 —, —, delustring, 162, 261, 266, 696, 1017.  
 —, —, denier reducing, 251.  
 —, —, 1,2-dihydroxypropylcellulose used in, 169.  
 —, —, dry spinning, 269.  
 —, —, dyeing, 171.  
 —, —, package for, 539.  
 —, —, electrical discharge in, preventing, 215.  
 —, —, ethylcellulose, coagulating, 259.  
 —, —, —, denier reducing, 299.  
 —, —, —, mfr., 259, 297.  
 —, —, ethylcellulose acetate for, 114.  
 —, —, fine denier, mfr., 227.  
 —, —, hollow, cellulose ester for mfr., 217.  
 —, —, —, cellulose ether for mfr., 217.  
 —, —, —, mfr. of, 209, 210, 213, 251, 303, 726, 807.  
 —, —, hydroxyalkylcellulose used in, 169.  
 —, —, hydroxyethylcellulose used in, 169.  
 —, —, mfr., 281, 297, 357, 571.  
 —, —, apparatus for, 204, 206.  
 —, —, —, cellulose acetate for, 537, 545.  
 —, —, —, cellulose acetate dry spinning, 834.  
 —, —, —, cellulose ether, 97.  
 —, —, —, cellulose formate, 696.  
 —, —, —, continuous, 818.  
 —, —, —, dry spinning, 138.  
 —, —, —, historical, 2066.  
 —, —, —, pyridine for, 545.  
 —, —, —, methylcellulose for mfr., 297.  
 —, —, mordanting, 168.  
 —, —, oil in, removing, 158.  
 Filament, artificial, oxyalkylcellulose used in, 169.  
 —, —, radio-active, mfr., 277.  
 —, —, rounded, mfr., 130.  
 —, —, sizing, 282, 518, 835.  
 —, —, —, methylcellulose for, 258.  
 —, —, spinning, 521.  
 —, —, spinning downward, 269.  
 —, —, stinging nettle for, 438.  
 —, —, strengthening, 228, 254, 2130.  
 —, —, stretching, 166, 235, 251, 301.  
 —, —, swelling, 235.  
 —, —, tubular, cellulose ester for mfr., 217.  
 —, —, —, cellulose ether for mfr., 217.  
 —, —, —, mfr., 217, 227.  
 —, —, uses, 680.  
 —, —, viscose, hollow, mfr., 804.  
 —, —, waste, etherifying, 12.  
 —, —, weighting, 213.  
 —, —, increasing strength of, 224.  
 —, —, benzylcellulose for, 1518.  
 —, —, benzylcellulose coated, mfr., 1593.  
 —, —, stretching, 2116.  
 —, —, twisting, 2116.  
 —, —, benzylcellulose sulfonate for mfr. of, 1603.  
 —, —, bleaching, 2119.  
 —, —, bubble-containing, mfr., 834.  
 —, —, carbon, cellulose acetate for, 329.  
 —, —, cellular, mfr. of, 217.  
 —, —, cellulose, combustibility of, reducing, 158.  
 —, —, cellulose acetate, appearance, 712.  
 —, —, —, bronzing, 885.  
 —, —, —, cellulose nitrate and, 717.  
 —, —, —, composite, mfr., 932.  
 —, —, —, dyeing, 712, 894, 1003.  
 —, —, —, dyeing black, 179.  
 —, —, —, extensibility, improving, 932.  
 —, —, —, feel, 712.  
 —, —, —, hollow, mfr., 834, 884, 949.  
 —, —, —, hydrolysis of, 1028.  
 —, —, —, Japan, 594.  
 —, —, —, loss of strength, preventing, 1029.  
 —, —, —, luster, increasing, 950.  
 —, —, —, mfr., 956, 1072.  
 —, —, —, matt effect on, 964.  
 —, —, —, printing, 894.  
 —, —, —, processing, 894, 970.  
 —, —, —, properties, 1003.

**Filament, cellulose acetate, resistance of,** 1038.  
 —, —, sizing, 1071.  
 —, —, softness of, improving, 982.  
 —, —, tenacity, improving, 932.  
 —, —, testing, 804.  
 —, —, thin, mfr., 922.  
 —, —, transparency, increasing, 950.  
 —, —, type, improving, 932.  
 —, —, waste, decolorizing, 592.  
 —, —, water-resistance, 712.  
 —, —, woolly effect on, 964.  
 —, cellulose acetate, mfr., 598.  
 —, cellulose ester, conditioning, 303.  
 —, —, mfr., 130, 188.  
 —, cellulose ether, conditioning, 303.  
 —, —, mfr., 2063, 2066, 2630.  
 —, —, porosity, increasing, 2094.  
 —, —, processing, 2129.  
 —, cellulose nitrate, cellulose acetate and, 717.  
 —, —, testing, 804.  
 —, cellulose oxalate for mfr., 646.  
 —, cleaning, 257.  
 —, coalescing, 2375.  
 —, coating, 2160.  
 —, copperammonia, mfr. of, cotton pulp for, 989.  
 —, —, wood pulp for, 989.  
 —, cuprammonium, testing, 804.  
 —, cutting up, machine for, 2372.  
 —, decolorizing, 592.  
 —, delustring, 2166, 2173.  
 —, denier, reducing, 959, 1020.  
 —, —, varying, 959.  
 —, 1,2-dihydroxypropylcellulose for, 1339.  
 —, dioxydiphenyldimethylmethane in mfr. of, 416.  
 —, drying, 2122.  
 —, electric lamp, cellulose acetate for, 329.  
 —, ethylcellulose, increasing strength of, 224.  
 —, —, stretching, 2116.  
 —, —, twisting, 2116.  
 —, hollow, cellulose acetate, mfr., 571, 640, 684, 807, 949, 981, 1006.  
 —, —, mfr., 209, 217, 523, 571, 775, 804, 829, 834, 981, 1070, 1075, 2363.  
 —, —, properties, 1006.  
 —, —, *see also Filament, artificial, hollow.*

**Filament, hydrochloric acid, *see Hydrochloric acid.***  
 —, increasing strength of, 224, 225.  
 —, lubricating, 2121.  
 —, luster, aluminum chloride for preserving, 2172, 2173.  
 —, —, ammonium bromide for preserving, 2172, 2173.  
 —, —, ammonium chloride for preserving, 2172, 2173.  
 —, —, barium chloride for preserving, 2172, 2173.  
 —, —, calcium chloride for preserving, 2172, 2173.  
 —, —, cresols for preserving, 2171.  
 —, —, decreasing, 2167.  
 —, —, diacetone alcohol for preserving, 2171.  
 —, —, diethyl phthalimide for preserving, 2171.  
 —, —, diethyl tartrate for preserving, 2171.  
 —, —, dimishing, 2167.  
 —, —, ethyl lactate for preserving, 2171.  
 —, —, glycol ethers for preserving, 2171.  
 —, —, hydroquinone for preserving, 2171.  
 —, —, increasing, 2167, 2168.  
 —, —, magnesium chloride for preserving, 2172, 2173.  
 —, —, magnesium sulfate for preserving, 2172, 2173.  
 —, —, modifying, 2166.  
 —, —, phenol for preserving, 2171.  
 —, —, potassium chloride for preserving, 2173.  
 —, —, potassium chromate for preserving, 2173.  
 —, —, potassium sulfate for preserving, 2173.  
 —, —, preserving, 2167, 2170.  
 —, —, resorcinol for preserving, 2171.  
 —, —, sodium chloride for preserving, 2172, 2173.  
 —, —, sodium hydrosulfate for preserving, 2173.  
 —, —, sodium phosphate for preserving, 2172, 2173.  
 —, —, sodium sulfate for preserving, 2172, 2173.  
 —, —, sodium sulfite for preserving, 2173.  
 —, —, strontium chloride for preserving, 2172.

- Filament, luster, *p*-toluenesulfonamide for preserving, 2171.  
 —, mfr. of, bobbins for, 2125.  
 —, —, cellulose acetate for, 808.  
 —, —, cellulose nitrate for, 808.  
 —, —, cellulose propionate for, 1698.  
 —, —, cheese tubes for, 2125.  
 —, —, cop tubes for, 2125.  
 —, —, pirn tubes for, 2125.  
 —, —, spools for, 2125.  
 —, methylcellulose, increasing strength of, 224.  
 —, —, mfr., 289, 2469.  
 —, —, stretching, 2116.  
 —, —, twisting, 2116.  
 —, non-scintillating, mfr. of, 2115.  
 —, propylcellulose for, 1339.  
 —, relustring, 2167.  
 —, rigidity, 1072.  
 —, scouring, 1071.  
 —, sizing, 1071.  
 —, softening, 1025.  
 —, stretching, 1071, 2116, 2117, 2118, 2132.  
 —, tinting, 970, 1083.  
 —, tubular, benzylcellulose, 1582.  
 —, —, mfr. of, 217, 2363.  
 —, twisting, 970, 2116, 2118.  
 —, viscose, testing, 804.  
 —, voluminous, cellulose acetate, mfr., 1070, 1075.  
 —, —, mfr. of, 2363.  
 —, washing, 2119.  
 —, winding, 970, 2118, 2123.  
 —, *see also* Mantels.  
*Filicic anhydride*, *see* *Filicin*.  
 Filler, benzylcellulose for, 2480.  
 —, China clay for, 2480.  
 —, cocoanut oil for, 2480.  
 —, ethylcellulose for, 2480.  
 —, methylcellulose for, 2480.  
 —, silex for, 2480.  
 —, wood, cellulose ester for, 291.  
 —, —, cellulose ether for, 291.  
 Filling, dental, celluloid for, 2539.  
 Film, antistatic, mfr., 689.  
 —, —, —, cellulose ether for, 97, 98.  
 —, artificial, cellulose acetate, mfr., 431.  
 —, backing for, 2520.  
 —, backing, cellulose acetate-phosphate for, 120.  
 —, —, cellulose acetate-stearate for, 119.  
 —, —, ethylcellulose for, 98.  
 Film, backing, ethylcellulose phosphate for, 120.  
 —, —, ethylcellulose stearate for, 119.  
 —, benzyl-aniline for mfr. of, 282.  
 —, benzylcellulose, 282, 1518.  
 —, —, decorating, 2525.  
 —, —, loading, 1590.  
 —, —, mfr., 1587.  
 —, —, matt finish on, 2195.  
 —, benzylcellulose sulfonate for mfr. of, 1603.  
 —, biaxial, 892.  
 —, biguanide for mfr. of, 282.  
 —, butylcellulose, 282.  
 —, carbazole for mfr. of, 282.  
 —, cartridge, cellulose ester, 117.  
 —, —, cellulose ether, 117.  
 —, celluloid, mfr. of, 251.  
 —, cellulose acetate, 103, 532.  
 —, —, casting, 855.  
 —, —, cellulose nitrate and, 654, 2507.  
 —, —, clarifying, 1030, 1095.  
 —, —, coalescing, 740.  
 —, —, coating, 577.  
 —, —, composite, mfr., 506.  
 —, —, constants of, 681.  
 —, —, crinkling, preventing, 731.  
 —, —, decorating, 555.  
 —, —, elasticity of, 513.  
 —, —, ethylenechlorhydrin in mfr., 532.  
 —, —, frosted, mfr., 514.  
 —, —, handling, 597.  
 —, —, highly extensible, mfr., 1025.  
 —, —, magnesium chloride with, 721.  
 —, —, mfr. of, 225, 251, 368, 394, 417, 463, 478, 486, 524, 587, 617, 681, 702, 757, 764, 808, 814, 886, 887, 941, 959, 1000, 1007, 1024, 1035, 1036, 1100.  
 —, —, —, continuous, 370.  
 —, —, manuscripts photographed on, 1097.  
 —, —, micrography, 723.  
 —, —, netting as support for, 1005.  
 —, —, non-conducting, 700.  
 —, —, phenol-aldehyde and, 645.  
 —, —, phenyl salicylate in mfr., 475.  
 —, —, renovating, 486.  
 —, —, saponifying, 850.  
 —, —, shrinking, preventing, 731.  
 —, —, stability of, 600.  
 —, —, storing, 597, 755.

Film, cellulose acetate, strength of, 899.  
 —, —, increasing, 444, 445.  
 —, —, thermoelastic properties of, 994.  
 —, —, thin, mfr., 844.  
 —, —, triphenyl phosphate in mfr., 475.  
 —, —, waste, decolorizing, 592.  
 —, cellulose acetate wire as support for, 1005.  
 —, cellulose acetate for mfr. of, 2523.  
 —, cellulose acetophosphate in mfr. of, 240.  
 —, cellulose acetostearate in, 1669.  
 —, cellulose acetostearate in mfr. of, 240.  
 —, cellulose dibenzoate, 594.  
 —, cellulose ester, conditioning, 304.  
 —, —, cutting, 302.  
 —, —, deodorizing, 206.  
 —, —, dulled, 1095.  
 —, —, mfr., 131, 160, 199, 230, 240, 304.  
 —, —, metal coated, 248.  
 —, —, multi-color, mfr., 251.  
 —, —, static electricity in, preventing, 189.  
 —, —, translucent, mfr., 277.  
 —, cellulose ether, 103.  
 —, —, casting, apparatus for, 98.  
 —, —, conditioning, 304.  
 —, —, curling, preventing, 96, 98, 99.  
 —, —, cutting, 302.  
 —, —, delustring, 2194.  
 —, —, deodorizing, 206.  
 —, —, dielectric character of, 125.  
 —, —, dyed, mfr., 137.  
 —, —, dyeing, 182.  
 —, —, electricity (static) in, preventing, 276.  
 —, —, halation in, preventing, 182.  
 —, —, increasing strength of, 176.  
 —, —, mfr. of, 22, 70, 115, 126, 131, 160, 199, 209, 211, 230, 240, 244, 304, 2508, 2630.  
 —, —, apparatus for, 70, 210, 211.  
 —, —, metal coated, 248.  
 —, —, multi-color, mfr., 251.  
 —, —, opaque, mfr., 137, 2526.  
 —, —, solvent removal from, 165.  
 —, —, static electricity in, preventing, 189.  
 —, —, thin, 63.

Film, cellulose ester, translucent, mfr., 277.  
 —, —, vinyl acetate and, for, 261.  
 —, —, vinyl butyrate and, for, 261.  
 —, —, vinyl propionate and, for, 261.  
 —, —, waterproofing, 2636.  
 —, cellulose ether coated, 127, 141.  
 —, cellulose formate, mfr., 217, 886.  
 —, cellulose hydrate, 739.  
 —, cellulose nitrate, cellulose acetate and, 654.  
 —, —, mfr., 706, 808, 886, 1035, 2500.  
 —, —, renovating, 486.  
 —, —, stability of, 600.  
 —, —, storage of, 755.  
 —, cellulose oxalate for mfr., 646, 886.  
 —, cement for joining, 430.  
 —, cine, mfr., 477.  
 —, cinematograph, mfr., 583.  
 —, cleaning, 257.  
 —, cloudy, mfr. of, 261.  
 —, color, Spicer-Dufay, mfr., 1096.  
 —, colored, cellulose derivative, 768.  
 —, —, ethylcellulose for mfr., of, 2519.  
 —, —, mfr., 2519, 2533.  
 —, —, methylcellulose for mfr. of, 2519.  
 —, composite, cellulose acetate, mfr., 506.  
 —, *o*-cresyl *p*-toluensulfonate in mfr., 617.  
 —, crystal effects, 2428.  
 —, curling, preventing, 532.  
 —, decolorizing, 592.  
 —, deodorizing, 206.  
 —, dibenzyl-aniline for mfr. of, 282.  
 —, dielectric, cellulose ether, 1343.  
 —, —, mfr., 127.  
 —, diethylurea in mfr. cellulose ether, 186.  
 —, 1,2-dihydroxypropylcellulose for, 1339.  
 —, dimethylurea in mfr. cellulose ether, 186.  
 —, dyeing, 277.  
 —, electrically-sensitive, mfr., 702.  
 —, electricity (static) in, preventing, 276.  
 —, enameling, cellulose acetate for, 377.  
 —, —, cellulose nitrate for, 377.  
 —, episcopic projection, mfr., 2527.

- Film, *N*-ethylcarbazole for mfr. of, 282.  
—, ethylcellulose, 184.  
—, —, attaching, 2391.  
—, —, colloided, 131.  
—, —, decorating, 2525.  
—, —, loading, 1590.  
—, —, mfr. of, 99, 225, 241, 297, 2523.  
—, —, matt finish on, 2195.  
—, ethylcellulose acetate for, 114, 2523.  
—, ethylcellulose butyrate in, 1669.  
—, ethylcellulose propionate for mfr. of, 2523.  
—, ethylcellulose stearate in, 1669.  
—, ethylcellulose stearate in mfr. of, 240.  
—, fire-retardant, mfr., 497.  
—, flat, cellulose acetate, mfr., 1014.  
—, flexible, mfr., 1073.  
—, flexilizing, 2520.  
—, frosted, mfr. of, 2434.  
—, gelatin, cellulose acetate for coating, 424.  
—, guanidine, preservative for, 1586.  
—, guanidine for mfr. of, 282.  
—, guanidine in mfr. cellulose ether, 186.  
—, identification of, 2505.  
—, identifying, cellulose acetate for, 669.  
—, —, glycol acetate for, 669.  
—, —, ultramarine for, 669.  
—, inscription on, protecting, 158.  
—, iridescent, mfr., 426, 2518.  
—, —, cellulose acetate in mfr. of, 426.  
—, isotopic, 892.  
—, laminated, mfr., 2599.  
—, light sensitive, mfr., 2533.  
—, long, cellulose acetate, mfr., 624.  
—, mfr. of, 230, 276, 460, 2500.  
—, —, acetone in, 1880.  
—, —, cellulose acetate for, 1690.  
—, —, cellulose propionate for, 1698.  
—, —, continuous, cellulose acetate, 370.  
—, —, mechanics of, 2529.  
—, matt, mfr., 699.  
—, matt surface, mfr., 268.  
—, metallized, mfr., 871, 872, 2361, 2362, 2434.  
—, methyl alcohol in mfr., 1829.
- Film, methylcellulose, attaching, 2391.  
—, —, decorating, 2525.  
—, —, mfr., 241, 289, 2469.  
—, methylcellulose and tannin, 241.  
—, milky, mfr. of, 261.  
—, monochrome, mfr., 486.  
—, multi-color, mfr. of, 231.  
—, multi-color, screen of, 277.  
—, *b*-naphthylbiguanid, preservative for, 1586.  
—, *b*-naphthylbiguanid for mfr. of, 282.  
—, non-curling, cellulose acetate, mfr., 1022.  
—, non-static, mfr., 661, 703.  
—, opaque, cellulose acetate mfr., 448.  
—, —, cellulose ether, mfr., 2526.  
—, —, mfr., 248.  
—, phenol-aldehyde, cellulose acetate and, 645.  
—, photo effects on, 2346.  
—, photo, protecting, cellulose acetate for, 473.  
—, photographic, acetone in mfr., 1880.  
—, —, agar-agar for, 486.  
—, —, albumin for, 486.  
—, —, anastatic, mfr., 563.  
—, —, anti-halation, mfr., 2640.  
—, —, benzene in mfr., 1803.  
—, —, benzylcellulose, 64, 1570.  
—, —, calcium chloride, mfr., 563.  
—, —, cellulose acetate, mfr., 414, 443, 472, 482, 560, 563, 884, 993.  
—, —, cellulose acetate for, 92, 339, 599, 912.  
—, —, cellulose ester for, 486.  
—, —, cellulose ether for, 50, 55.  
—, —, cellulose nitrate, mfr., 560, 563.  
—, —, cellulose nitrate for, 92.  
—, —, chondrin for, 486.  
—, —, ethylcellulose for, 92, 184.  
—, —, gelatin for, 486.  
—, —, glue for, 486.  
—, —, Iceland moss for, 486.  
—, —, methyl alcohol in mfr., 1829.  
—, —, ox gall for, 912.  
—, —, recovery, cellulose acetate from, 475.  
—, —, shrinkage, preventing, 81.  
—, —, waterproofing, 393.  
—, —, wax for, 912.  
—, —, wood fiber for, 912.  
—, polishing, 2519.

- Film, propylcellulose for, 1338, 1339.  
 —, rain on, renovating, 486.  
 —, renovating, 486.  
 —, roll, cellulose acetate, mfr., 989.  
 —, —, mfr., 280.  
 —, rubber containing, mfr., 1035.  
 —, shrinking, process for, 2513.  
 —, softening, 1025.  
 —, static charge in, overcoming, 738, 2509.  
 —, static in, avoiding, 2514, 2515, 2525, 2528.  
 —, stretching, 301.  
 —, tannin and methylcellulose, 241.  
 —, thin, benzylcellulose, mfr., 1574.  
 —, —, cellulose acetate, mfr., 507.  
 —, thiourea in mfr. cellulose ether, 186.  
 —, translucent, mfr. of, 261, 1077, 2434.  
 —, tricresyl phosphate, preservative for, 1586.  
 —, triphenylguanidine for mfr. of, 282.  
 —, uncoiling, preventing, 785.  
 —, uniaxial, 892.  
 —, urea in mfr. cellulose ether, 186.  
 —, ureoid base in mfr. cellulose ether, 186.  
 —, vinyl acetate, cellulose ether and, for, 261.  
 —, vinyl butyrate, cellulose ether and, for, 261.  
 —, vinyl propionate, cellulose ether and, for, 261.  
 —, viscose, 1414.  
 —, —, cellulose acetate for coating, 424.  
 —, —, mfr., 368.  
 —, waste, cellulose acetate, utilizing, 824.  
 —, waterproofing, cellulose ether for, 2403.  
 —, yellow, cellulose ether, 151.  
 Film industry, cellulose ether in the, 2499.  
 Film spool, *see* Spool, film.  
 Filter, benzylcellulose, mfr., 1585.  
 —, cellulose acetate in mfr., 589, 591.  
 —, light, mfr., 2541.  
 —, photographic, 151.  
 —, polychrome, cellulose acetate in mfr., 840.  
 —, —, mfr., 840.  
 Filter, polydyne, cellulose acetate in mfr., 589.  
 —, ultra, cellulose acetate in mfr. of, 537.  
 —, Zsigmondy, 591.  
 Filtering, cellulose acetate for, 656.  
 Filtration, cellulose acetate membrane for, 524.  
 Fines, wood pulp, 1172.  
 Finish, carboxyalkylcellulose ester for, 1398.  
 —, chlorhydroxypropylcellulose for, 1398.  
 —, epichlorhydrin for, 1398.  
 —, ethylaminocellulose acetate for, 1398.  
 —, hydroxyalkylaminocellulose for, 1398.  
 —, hydroxyalkylcellulose for, 1398.  
 —, hydroxyethylaminocellulose for, 1398.  
 —, oxyalkylcellulose for, 1398.  
 —, propyloxyethylaminocellulose for, 1398.  
 —, textiles, cellulose glycollic acid for, 1724.  
 —, —, cellulose lactic acid for, 1724.  
 —, thionyl chloride for, 1398.  
 Finishing, cellulose acetate, 689.  
 Finishing composition, cellulose acetate, 382.  
 Finish remover, acetone in mfr., 1880.  
 —, carbon tetrachloride in, 1814.  
 —, mfr. of, benzene in, 1803.  
 —, —, benzyl chloride in, 1297.  
 —, —, cellulose acetate in, 435.  
 —, —, wax in, 435.  
 —, starch acetate for, 1493.  
 Fir, acetylating, 877.  
 Fire extinguishers, carbon tetrachloride in, 1814.  
 Firmoid, 2567.  
 Fish, cellulose acetate for packing, 768.  
 —, lens of, pearl essence made using, 2618.  
 Fish essence, mfr., 2612.  
 Fish glue, 2058.  
 —, photographic film containing, 370.  
 —, synthesis, pearl, using, 2611.  
 Fish line, cellulose acetate for, 462.  
 Fish net, cellulose acetate for coating, 414.  
 Fish oil, film containing, 886.  
 Flax, 1177.



- Flax, acetylated, 1632.  
—, benzylating, 293, 1180.  
—, etherification of, 12, 1415.  
—, ethylating, 293.  
—, methylating, 293, 1632.  
—, packing made using, 487.  
—, purifying, 1179.  
—, retting, 1177, 1178.  
—, sponge, artificial, made using, 2536.  
—, X-ray analysis of, 1179.  
Flax yarn, shrinkage, reducing, 2373.  
Fleas, beef extract with cellulose acetate for entangling, 711.  
—, molasses with cellulose acetate for entangling, 711.  
*Flesh split, see Skins.*  
Flexo-Glass, 1079.  
Flexoloid, waterproofing, 139.  
Flies, beef extract with cellulose acetate for entangling, 711.  
—, molasses with cellulose acetate for entangling, 711.  
Floor, parquet, cellulose ether for covering, 2403.  
—, strip, cellulose ether for covering, 2403.  
Floor covering, benzylcellulose for, 171, 215, 2437, 2598.  
—, cellulose ether for covering, 2403.  
Flooring, flexible, benzylcellulose for, 1585.  
—, mfr., 1092.  
—, wooden, cellulose ether for covering, 2403.  
Flour, cellulose ether plastic containing, 150.  
—, dextrinized, cellulose acetate filament sized using, 1015.  
—, size for artificial filament, 1015.  
—, potato, alkylating 2641.  
Flowers, artificial, cellulose ester in mfr., 972.  
—, —, lime in mfr., 972.  
—, —, magnesia in mfr., 972.  
—, —, rubber in mfr., 972.  
Fluorene, amines solvent for, 2010.  
Fluorescein, amines solvent for, 2010.  
Fluorescent, cellulose ether dyed green, 2258.  
Fluorescent effect, producing, 2362.  
*Fluorhydric acid, see Hydrofluoric acid, fuming.*  
Fluormyristic acid, 1892.  
2-Fluoro-3-methyltriacylfructose, 1506.  
—, mfr. of, 259.  
Fluorosulfonic acid, cellulose treated with, 1066.  
Fluorpalmitic acid, 1892.  
Fluorstearic acid, 1892.  
2-Fluortriacylfructose, mfr. of, 258.  
Fluosilicate, acetals made using, 998.  
Foil, celluloid in mfr., 999.  
—, cellulose acetate, 898, 964.  
—, —, mfr., 946, 965, 999.  
—, cellulose acetate for mfr. of, 2523.  
—, cellulose nitrate, 898.  
—, —, mfr., 946, 999.  
—, copying, cellulose acetate for, 575.  
—, ethylcellulose for mfr. of, 2523.  
—, ethylcellulose acetate for mfr. of, 2523.  
—, ethylcellulose propionate for mfr. of, 2523.  
—, glycerol-phthalic anhydride resin in mfr., 999.  
—, gold, separating, cellulose acetate for, 647.  
—, —, cellulose hydrate for, 647.  
—, Japan wax in mfr., 999.  
—, lanolin in mfr., 999.  
—, metal, cellophane for coating, 424.  
—, —, cellulose acetate for coating, 424.  
—, —, viscose for coating, 424.  
—, —, *see also Metal, foil.*  
—, paraffin in mfr., 999.  
—, tin, printing on, lacquer for, mfr., 2424.  
—, viscose, cementing, cellulose acetate for, 841.  
Food, wrapper for, cellulose acetate as, 842.  
—, wrapping, cellulose acetate film for, 1090.  
Food packing, cellulose acetate for packing, 768.  
Food wrapper, ethylcellulose acetate for waterproofing, 139.  
Foot, supporters, cellulose ether for mfr., 2645.  
Formal, acetic acid made using, 853.  
—, *see also Methylal.*

- Formaldehyde, 61, 1864, 1877, 1923, 1996, 2030, 2041, 2641.  
—, acetic acid made using, 853, 957.  
—, acetyl bromide with as plastic, 561.  
—, benzene sulfonamide condensate of, 173.  
—, benzyl bromide with as plastic, 561.  
—, benzylcellulose combined with, 266.  
—, bromoform with as plastic, 561.  
—, carbon tetrachloride with as plastic, 561.  
—, cellulose acetate plastic containing, 532, 569, 579.  
—, cellulose acetate solvent, 635.  
—, cellulose acetate stabilized by, 590.  
—, cellulose acetate swelling agent, 715, 960.  
—, cellulose acetate treated with casein and, 937.  
—, cellulose acetate treated with gelatin and, 937.  
—, cellulose acetylated in presence of, 799.  
—, cellulose etherified in presence of, 1435.  
—, cellulose ether insolubilized by, 2422.  
—, cellulose ether film strengthened by, 1379.  
—, cellulose ether solvent, 2088, 2089.  
—, cellulose glycollic acid coagulated by, 89.  
—, cellulose glycollic acid precipitant, 89.  
—, cellulose hydroxyparaffin-monocarboxylic acid coagulated by, 89.  
—, cellulose lactic acid coagulated by, 89.  
—, cellulose lactic acid precipitant, 89.  
—, chloral with as plastic, 561.  
—, condensate containing, 561, 2442.  
—, damask effect, permanent produced with, 2340.  
—, diphenylolcycloparaffin condensate of, 261.  
—, dispersive action of on cellulose ether, 204.  
—, ethylcellulose combined with, 266.  
Formaldehyde, ethylcellulose insolubilized by, 2577.  
—, ethylcellulose strengthened by, 1379.  
—, ethylcellulose water-solubility diminished by, 1347.  
—, ethyl chloride with as plastic, 561.  
—, ethyl iodide with as plastic, 561.  
—, gelatin hardened by, 664.  
—, glass, laminated, made using, 2589.  
—, mfr., 633, 794.  
—, methylcellulose combined with, 266.  
—, methylcellulose insolubilized by, 2577.  
—, mildewproofing using, 2202.  
—, pearl essence made using, 2618.  
—, plastic containing, 475, 478.  
—, plastic of cellulose acetate and, 1024.  
—, polyvinyl acetate and as artificial resin, 238.  
—, polyvinyl chloracetate and as artificial resin, 238.  
—, polyvinyl chloride and as artificial resin, 238.  
—, polyvinyl compound and as artificial resin, 238.  
—, resin made using, 1078.  
—, resin, artificial, made using, 1080, 1577.  
—, static electricity prevented by, 189.  
—, stencil sheet made using, 2498.  
—, tannin made with, 1427.  
—, xylene sulfonamide condensate of, 173.  
Formaldehyde condensate, dispersing agent, 2209.  
—, solubilizing agent, 2213.  
Formaldehyde-dicyanodiamide condensate, glass, laminated, made using, 2596.  
Formaldehyde-naphthalene sulfonic acid condensate, cellulose acetate dyed using, 718.  
—, cellulose acetate solubilizer, 903.  
Formaldehyde sulfoxylate, 1083, 2243, 2318.  
—, pattern effect produced by, 2348.  
Formaldehyde-sulfoxylic acid, zinc salt of, discharge effect by, 674.  
Formaldehyde-urea, filament made containing, 2632.

Formaldehyde-urea condensate, emulsion containing, 2457.

Formal-glycerol, 1582.

Formal-glycerol synthetic resin, coating compounds containing, 1007.

*Formalin*, see *Formaldehyde*.

Formalin-phenol, lacquer containing, 2396.

*Formamidated chloral*, see *Chloralamide*.

Formamide, 1114, 2006.

—, acetamide made from, 1046.

—, acetic acid made using, 832, 1046.

—, cellulose acetate solvent, 524.

—, cellulose formate solvent, 640.

—, formic acid made using, 484, 494.

—, formic acid concentrated using, 1023.

—, formylnitrate solvent, 640.

—, glass, laminated, made using, 2587.

—, plastic made containing, 2563.

Formanilid, 1956, 2004, 2015, 2021.

—, cellulose ether solvent, 1841.

—, ethylcellulose solvent, 19.

—, starch ether solvent, 1483.

—, stabilizer, 1564.

*Formhydroxamic acid*, see *Nitromethane*.

Formic-acetic anhydride, 367.

Formic acid, 1891, 1989.

—, absolute, constants, 626.

—, acetic acid separated from, 591, 1000.

—, acetylating in presence of, 859.

—, amyl formate as solvent for, 1008.

—, benzylcellulose viscosity reduced by, 1560.

—, cellulose acetate, resistance of, increased by, 786.

—, cellulose acetate solvent, 400, 480, 1819, 2075.

—, cellulose acetate delustred by, 616, 747.

—, cellulose acetate dyed using, 673.

—, cellulose acetate hydrated using, 925.

—, cellulose acetate luster increased by, 785.

—, cellulose acetate pile fabric softened by, 608.

Formic acid, cellulose acetate precipitant, 784.

—, cellulose acetate relustred by, 623, 943.

—, cellulose acetate solvent, 400, 480, 1819, 2075.

—, cellulose acetate stabilizer, 734.

—, cellulose acetate swelling agent, 501, 967.

—, cellulose diformate solvent, 1017.

—, cellulose ether, jelling of, prevented by, 1349.

—, —, livering of, prevented by, 1349.

—, —, precipitating of, prevented by, 1349.

—, cellulose ether dyed in presence of, 2223.

—, cellulose ether fixative, 104.

—, cellulose ether gelatinant, 2096.

—, cellulose ether softener, 2150, 2155, 2156.

—, cellulose ether solvent, 141, 1841, 2075.

—, cellulose ether strengthened by, 2131.

—, cellulose ether swelling agent, 2221.

—, cellulose etherified in presence of, 1435.

—, cellulose formate solvent, 362, 417.

—, cellulose pretreated with, 409, 633, 634, 656, 666, 721, 773, 799, 865, 929, 958.

—, cellulose purified by, 1408.

—, cellulose treated with, 968.

—, concentrated, mfr., 614.

—, concentrating, 554, 655, 721, 760, 824, 993, 1023.

—, cotton treated with, 404.

—, damask effect produced by, 2340.

—, decomposition of, 697.

—, decomposition velocity of, 710.

—, delustring by, 2344.

—, dispersing agent for, 2214.

—, dye dissolved using, 2235.

—, dyestuff affinity increased, 2223.

—, ethylcellulose, jelling of, prevented by, 1349.

—, —, livering of, prevented by, 1349.

—, —, precipitating of, prevented by, 1349.

- Formic acid, ethylcellulose solvent, 17, 18, 19, 20, 21, 1437.  
 —, ethyl formate from, 457.  
 —, evolving, 1027.  
 —, gelatin solvent, 480.  
 —, gelling prevented by, 2410.  
 —, glass, laminated, made using, 2586.  
 —, guanin insoluble in, 2614.  
 —, guanin purified by, 2617.  
 —, lacquer containing, 2392.  
 —, livering in cellulose ether prevented by, 162.  
 —, livering prevented by, 2410.  
 —, lustring with, 2200.  
 —, mfr., 427, 494, 526, 535, 594, 620, 691, 793, 829, 858, 977, 997, 1015, 1036, 1044.  
 —, methylcellulose, jelling of, prevented by, 1349.  
 —, —, livering of, prevented by, 1349.  
 —, —, precipitating of, prevented by, 1349.  
 —, mordant for cellulose acetate, 809.  
 —, mordant in cellulose ether dyeing, 104.  
 —, pattern effects on cellulose acetate by, 774.  
 —, recovery, 782.  
 —, refractometric determination of, 755.  
 —, salicylic acid for liberating, 1022.  
 —, scroop increased by, 2202.  
 —, scroop produced by, 593.  
 —, sodium boroformate for liberating, 1022.  
 —, solvent, 1890, 1891.  
 —, starch ether solvent, 1483.  
 —, thermal decomposition of, 544.  
 Formic acid ester, mfr., 534.  
 Formic aldehyde, *see Formaldehyde*.  
 Formic esters, 1909, 1989.  
 —, recovery, 454.  
 Formic ether, *see Ethyl formate*.  
 o-Formic ether, *see Ethyl o-formate*.  
 Formimido ether, 2630.  
 Formins, mfr., 362.  
 —, *see also Hexamethylenetetramine*.  
 mono-Formins, mfr., 362.  
 Formonitrile, *see Hydrocyanic acid*.  
 Formose, *see Formaldehyde*.  
 Formosol, 1910, 1918.  
 —, *see also Ethyl formate*.  
 Formosul, cellulose acetate dyed using, 853.  
 —, discharge effect with, 2347.  
 Formtoluid, stabilizer, 1564.  
 Form-o-toluid, 1956, 2031.  
 Formtoluidide, 2004.  
 Form-o-toluidid, record, phonograph, mfr. using, 515.  
 Form-p-toluidid, 1956.  
 Formylacetyl-o-toluidine, 2016.  
 —, cellulose acetate solvent, 507.  
 Formylamidophenylethyl carbonate, 1907.  
 Formylamidophenylmethyl carbonate, 1907.  
 Formylated albumen, *see Albumen, formylated*.  
 Formylated cellulose, *see Cellulose formate*.  
 Formylated starch, *see Starch formate*.  
 Formylation, *see Esterification*.  
 Formyl cellulose, *see Cellulose formate*.  
 Formyl chloride, *see Chloroform*.  
 Formylethylacetanilid, 2016.  
 Formylethylaniline, 2014.  
 Formylglycerol, lacquer mfr. using, 2394.  
 Formylnitrate, mfr., 640.  
 Formyloxystearic acid esters, camphor substitute, 2051.  
 Formylricinoleic acid esters, camphor substitute, 2051.  
 Formyl tribromide, *see Bromoform*.  
 Formyltrichloramidine, 2019.  
 Formyltrichloranilid, 2022.  
 Frame, cold, *see Cold frame*.  
 Frangulic acid, *see Frangulinic acid*.  
 Freckles, anthracene-sulfonic acid in treatment of, 2450.  
 —, naphthol-sulfonic acid in treatment of, 2450.  
 —, naphthylamine-sulfonic acid in treatment of, 2450.  
 Freezing, cellulose ether solubility increased by, 1391.  
 Freezone, 2446.  
 Frosted glass, benzoic acid in mfr. of, 645.  
 —, borneol in mfr. of, 645.  
 —, cellulose acetate in mfr. of, 645.  
 —, menthol in mfr. of, 645.

- Frosted glass, monobromcamphor in mfr. of, 645.  
—, resorcinol in mfr. of, 645.  
—, salicylic acid in mfr. of, 645.  
—, terpene hydrate in mfr. of, 645.  
—, thymol in mfr. of, 645.  
Fructose, 1156, 1162, 1506.  
—, hydrofluoric acid compounds of, 258.  
—, *see also Levulose*.  
*d*-Fructose, 1505.  
1,3,4,6-*d*-Fructose, 1506.  
*d*-Fructose penta-acetate, constants of, 462.  
Fructose tetraacetylfluoride, mfr. of, 258.  
Fructoside, methylated, 1506.  
*Fruit sugar, see Levulose*.  
Fuch sine, 4, 1985.  
—, cellulose acetate dyed by, 512.  
—, cellulose ether dyeing using, 2237.  
—, wetting agent, 2208.  
1-Fucose, 1498.  
Fuel, engine, 1910.  
—, liquid, acetone in mfr., 1880.  
—, solid, metaldehyde as, 583.  
Fuller's earth, cellulose acetate film decolorized by, 592.  
—, cellulose ether purified by, 1465.  
—, decolorizing with, 592.  
—, delustring with, 2183.  
*Fulminate, see Mercury fulminate*.  
Fumacylglycidic acid, 1381.  
—, carbohydrates compound with, 64.  
—, cellulose compound with, 64.  
—, dextrin compound with, 64.  
—, starch compound with, 64.  
—, sugar compound with, 64.  
—, tragacanth compound with, 64.  
Fumaric acid, 1950.  
—, cellulose acetate hydrolyzed in presence of, 1056.  
—, methyl sulfate in mfr. of, 1264.  
Fumaric anhydride, cellulose acetate hydrolyzed in presence of, 1056.  
Fumaric esters, 1950.  
*Fume tests, see Stability tests*.  
*Fuming nitric acid, see Nitric acid, fuming*.  
*Fuming oil of vitriol, see Oleum*.  
Funori, stencil sheet made using, 664, 2490.  
Fur, *p*-aminodiphenylamine for dyeing, 715.  
Fur, aniline for dyeing, 715.  
—, *p*-phenylenediamine for dyeing, 715.  
—, *o*-toluidine for dyeing, 715.  
Furacrylic acid, 2000.  
Furane, 1730, 1995.  
—, constants, 1997.  
Furane group, 1995.  
Furanose, 1102.  
Furanoside, 1102.  
Furfuracrolein, acetaldehyde for mfr. of, 467.  
—, cellulose acetate plastic, 467.  
—, furfural for mfr. of, 467.  
—, mfr., 467.  
Furfural, 1143, 1146, 1162, 1761, 1891, 1906, 1907, 1910, 1960, 1991, 1996, 1998, 1999, 2027.  
—, anthracene condensed with, 181.  
—, benzene and as cellulose acetate solvent, 580.  
—, benzene-sulfonamide and as resin, 459.  
—, benzylcellulose and, 1577.  
—, benzylcellulose solvent, 1545.  
—, carbazole condensed with, 181.  
—, cellulose acetate dyed using, 718.  
—, cellulose acetate lacquer containing, 539.  
—, cellulose acetate recovered by, 440.  
—, cellulose acetate solvent, 445, 474, 484, 498, 509.  
—, cellulose acetate solvent recovered by, 440.  
—, cellulose ether fixative, 104.  
—, cellulose ether softener, 2150.  
—, cellulose ether solvent, 51.  
—, constants, 1997.  
—, dilution ratios, 1997.  
—, dispersing agent, 2452.  
—, ethyl acetate and as cellulose acetate solvent, 580.  
—, ethyl chloride, and as cellulose acetate solvent, 580.  
—, insulating with cellulose acetate and, 802.  
—, lacquer containing, 740, 741, 2396.  
—, mfr., 481.  
—, methyl alcohol and as cellulose acetate solvent, 580.  
—, mordant in cellulose ether dyeing, 104.  
—, naphthalene condensed with, 181.

- Furfural, record, phonograph, made using, 859.  
—, solubility resins in, 1997.  
—, toluene and as cellulose acetate solvent, 580.  
—, *m*-tolueneethyl-sulfonamide and as resin, 259.  
—, toluene-sulfonamide and as resin, 259.  
—, wood oil containing, 296.  
—, xylenemonomethyl-sulfonamide and as resin, 259.  
—, xylene-sulfonamide and as resin, 259.  
Furfuraldehyde, 178, 372, 1973, 1996.  
—, celluloid solvent, 890.  
—, cellulose acetate delustred by, 616.  
—, cellulose acetate solvent, 890, 1785.  
—, celluloseether fixative, 104.  
—, cellulose ether softener, 2155.  
—, damask effect produced by, 2340.  
—, mordant for cellulose acetate, 809.  
—, mordant in cellulose ether dyeing, 104.  
—, synthetic resin mfr. using, 1578.  
—, *see also* *Furfural*.  
Furfuraldehyde-acetone resin, lacquer containing, 741, 2395.  
Furfuraldehyde-aniline, lacquer mfr. using, 2394.  
Furfuramide, anthracene condensed with, 181.  
—, carbazole condensed with, 181.  
—, dispersing agent, 2452.  
—, naphthalene condensed with, 181.  
Furfurane, 1995.  
*Furfuranecarboxylic aldehyde*, *see* *Furfural*.  
Furfurane group, 1995.  
*Furfurol*, *see* *Furfural*.  
Furfuryl acetate, 2000.  
Furfuryl alcohol, 1999.  
—, celluloid solvent, 890.  
—, cellulose acetate solvent, 890, 1785.  
—, constants, 1997.  
—, dilution ratios, 1997.  
—, solubility resins in, 1997.  
Furfuryl aldehyde, 1996.  
Furfuryl benzoate, 2000.  
Furfuryl cinnamate, 2000.  
Furfuryl phthalate, 2000.  
Furfuryl resin, 1994.  
Furoic acid, 1729, 1730, 2000.  
Furoic esters, 2000.  
*Furol*, *see* *Furfural*.  
Furoylacetic acid, esters of, cellulose acetate softener, 733.  
Furoyl chloride, 1730.  
—, cellulose difuroate made using, 986.  
—, cellulose trifuroate made using, 986.  
Furyl acetate, 2000.  
Furyl alcohol, 1951, 1999.  
—, benzylcellulose plasticizer, 188.  
—, ethylcellulose plasticizer, 188.  
—, lacquer, black, made using, 2414.  
Furyl butyrate, 2000.  
Furyl lactate, 2000.  
Fusarium, 2201.  
—, growth on cellulose acetate fabric, 965.  
Fusel oil, 1835, 1837, 1933, 2045.  
—, cellulose acetate film containing, 941.  
—, cellulose acetate plastifier, 575.  
—, cellulose acetate solvent, 469, 1691, 1818.  
—, film containing, mfr., 443, 2505.  
—, *refined*, *see* *Amyl alcohol*.  
Fusel oxalate, 2027.
- Gaegeli's notation, 124.  
Galactan, 1195.  
Galactonolactone, 1503.  
Galactose, 1102, 1162, 1178.  
—, acetylating, 837.  
—, amines solvent for, 2010.  
*d*-Galactose, 1502.  
Galactose acetate, 320.  
*Galactose octacetate*, *see* *Octacetyl-galactose*.  
*b*-Galactose penta-acetate, 1505.  
Galactosides, 1102.  
*4-b*-Galactosidomannonic acid, methylation of, 279.  
*4-b*-Galactosido- $\alpha$ -mannoside, methylation of, 279.  
*4-b*-Galactosido- $\alpha$ -methylmannoside, 1505.  
Galacturonic acid, 1182.  
Galalith, 1555.  
Gall, viscosity cellulose acetate reduced by, 2397.  
—, viscosity of cellulose ester reduced by, 822.

- Gallacetophenone, 1889.  
*Gallanilide*, see *Gallanol*.  
 Gallein, amines solvent for, 2010.  
 Gallic acid, amines solvent for, 2010.  
*Gallic acid anilid*, see *Gallanol*.  
 Gallipoli oil, cellulose acetate film containing, 941.  
 —, film made using, 2505.  
*Gallisin*, see *Methyl gallate*.  
 Gallocyanine, 2325.  
 —, cellulose acetate dyed by, 512.  
 Gallocyanine DH, cellulose acetate dyed in presence of, 510.  
 Gallocyanine dyes, cellulose ester dyed using, 2312.  
*Gallotannic acid*, see *Tannin*.  
 Gamboge, 2054.  
 —, stencil sheet made using, 2498.  
 Garment, shiny, delustring, 2193.  
 Garters, fabric, elastic for, 2382.  
 Gas container, cellulose acetate for, 592.  
 Gas impermeable material, cellulose acetate in mfr., 440.  
*Gas mantles*, see *Mantles, gas*;  
*Mantles, incandescence*.  
*Gas mask*, see *Mask, gas*.  
 Gasolene, 1800, 1850.  
 —, acetic acid extracted using, 605.  
 —, acetic anhydride made using, 769, 770.  
 —, cellulose acetate delustred by, 776.  
 —, cellulose ester delustred by, 221.  
 —, cellulose ester relustred by, 221.  
 —, cellulose ether delustred by, 221.  
 —, cellulose ether lacquer containing, 188.  
 —, cellulose ether non-solvent, 2077.  
 —, cellulose ether precipitant, 2072.  
 —, cellulose ether relustred by, 221.  
 —, coating against, cellulose acetate for, 2395.  
 —, container for, protecting, 847.  
 —, propionic acid extracted using, 605.  
 —, solvents for, 1849.  
 —, stabilizer, catechol for, 1860.  
 —, storage, 990.  
 —, see also *Benzine*.  
*Gaultheria oil*, see *Methyl salicylate*.  
 Gauze, artificial, mfr. of, 2382.  
 —, amine-furfuraldehyde for coating, 741.  
 Gauze, cellulose acetate for coating, 741.  
 —, cellulose acetate covered, 678.  
 —, ketone-furfuraldehyde for coating, 741.  
 —, ketone-phenol-aldehyde for coating, 741.  
 —, phenol-aldehyde for coating, 741.  
 —, phenol-furfuraldehyde for coating, 741.  
 —, resin, synthetic, for coating, 741.  
 —, simulating, cellulose acetate for, 765.  
 —, wire, cellulose acetate coated, 874.  
 —, wire, coating, 2553.  
 Gear, cellulose acetate in mfr., 812.  
 —, cellulose ether in mfr. of, 136, 2598.  
 —, paper, cellulose acetate impregnated, 691.  
 —, —, cellulose nitrate impregnated, 691.  
 —, sheet, composite, for, 2599.  
 Gelatin, 173, 1125, 2057, 2058, 2242.  
 —, acetic acid solvent of, 480.  
 —, airplane coated with, 2484.  
 —, amines solvent for, 2010.  
 —, *blasting*, see *Blasting gelatin*.  
 —, cellulose acetate plastic of and, 407.  
 —, cellulose acetate combined with, 992.  
 —, cellulose acetate dyed in presence of, 504, 510, 622, 651.  
 —, cellulose acetate ironing temperature reduced by, 933.  
 —, cellulose acetate matt surface made using, 699.  
 —, cellulose acetate plastic with, 423.  
 —, cellulose acetate sized using, 869.  
 —, cellulose acetate treated with formaldehyde and, 937.  
 —, cellulose ether emulsified in presence of, 2452.  
 —, cellulose ether softener, 2218.  
 —, cellulose nitrate film coated with, 706.  
 —, delustring with, 2186.  
 —, dyeing in presence of, 2270.  
 —, fabric, balloon, made using, 891.  
 —, filament sized with, 1071.  
 —, film containing, 486, 531, 2504, 2528, 2529.

- Gelatin, film, thin, properties, 805.  
 —, film of, cellulose acetate for coating, 424.  
 —, formaldehyde for hardening, 664.  
 —, formic acid solvent of, 480.  
 —, gas bag rendered impermeable by, 513.  
 —, glass, laminated, made using, 820, 993, 2586, 2587, 2588.  
 —, glass united by, 1079.  
 —, hexamethylenetetramine for hardening, 664.  
 —, iridescent, mfr., 426.  
 —, pencil ornamenting using, 843.  
 —, photographic film containing, 370.  
 —, plastic with cellulose ether, 127.  
 —, plate printing made using, 648.  
 —, scroop produced by, 593.  
 —, silk combined with, 2335.  
 —, size containing, 2309, 2139, 2141.  
 —, stencil sheet made using, 2498.  
 —, substitute, 39.  
 —, —, cellulose acetic acid alkali salt as, 449.  
 —, —, cellulose-propionic acid alkali salt as, 449.  
 —, synthesis, pearl, using, 2611.  
 —, wetting agent, 2208.  
*Gelatin explosive, see Explosive, gelatin.*  
*Gelatinized fiber, see Vulcanized fiber.*  
 Gelatin resist, containing, 2317.  
 Gelatin soaps, cellulose acetate dyed in presence of, 510.  
 Gelose, stencil sheet made using, 2499.  
 Geloses, ethers of, 44.  
 Gentiobiose, 1501.  
 Geraniol formate, cellulose acetate solvent, 1818, 1819.  
 Geranyl acetate, 1964.  
 —, cellulose acetate solvent, 1818, 1819.  
 Geranyl formate, 1964.  
 Gill-box, cellulose acetate covered, 933.  
 Gilsonite, board made using, 725.  
 —, board, insulation, electric, made using, 2445.  
 —, insulating made using, 725.  
 —, panel made using, 725.  
 Girdles, fabric, elastic for, 2382.  
*Glacial acetic acid, see Acetic acid, glacial.*  
 Glacier burn, anthracene-sulfonic acid in treatment of, 2450.  
 —, naphthol-sulfonic acid in treatment of, 2450.  
 —, naphthylamine-sulfonic acid in treatment of, 2450.  
 Glass, adhesive for, 2598.  
 —, amyl alcohol in reinforced, 145.  
 —, artificial wire, 2552.  
 —, automobile, *see Glass, laminated.*  
 —, bismuth molybdate in reinforced, 144.  
 —, bismuth stannate in reinforced, 144.  
 —, bismuth tungstate in reinforced, 145.  
 —, bullet-proof, 2587.  
 —, butyl alcohol in reinforced, 145.  
 —, cellulose ester coated, 225.  
 —, cellulose ester delustred by, 221.  
 —, cellulose ether coated, 225, 2417.  
 —, cellulose ether delustred by, 221.  
 —, cellulose nitrate for coating, 2417.  
 —, cement for, 473.  
 —, coating, cellulose acetate for, 448.  
 —, composite wind shield, *see Glass, laminated.*  
 —, dibenzyl in reinforced, 145.  
 —, diphenylolpropane-acetone condensate as adhesive for, 260.  
 —, diphenylolpropane-formaldehyde condensate as adhesive for, 260.  
 —, *duplate, see Glass, laminated.*  
 —, ethylcellulose for reinforcing, 144.  
 —, flexible, mfr., 884, 1077.  
 —, kinon, *see Glass, laminated.*  
 —, laminated, cellulose butyrolaurate in, 1719.  
 —, —, cellulose ether in mfr., 2636.  
 —, —, cellulose laurate in, 1719.  
 —, —, cellulose propionate for, 1698.  
 —, —, characteristics of, 996.  
 —, —, curved, mfr. of, 999.  
 —, —, diethyleneglycol monobutyl ether in mfr., 2636.  
 —, —, diphenylolpropane-acetone condensate for, 260.  
 —, —, diphenylolpropane-formaldehyde condensate for, 260.



- Glass, laminated, edge, sealing, 665, 2594.
- , —, ethylcellulose palmitate in mfr., 1669.
- , —, glycerol in mfr., 2638.
- , —, history of, 996.
- , —, mfr. of, 294, 480, 525, 690, 859, 884, 993, 994, 996, 1076.
- , —, —, acetin in, 843.
- , —, —, acetone in, 655.
- , —, —, amyl formate solvent in, 438.
- , —, —, benzyl alcohol in, 833.
- , —, —, benzylcellulose in, 294.
- , —, —, caroubin for, 164.
- , —, —, celluloid in, 820, 894, 924, 1011.
- , —, —, cellulose acetate in, 294, 424, 516, 517, 525, 593, 655, 660, 688, 735, 740, 754, 816, 820, 827, 833, 836, 842, 844, 846, 851, 894, 906, 915, 924, 930, 937, 953, 996, 998, 999, 1000, 1011.
- , —, —, cellulose aceto-butyrate in, 789.
- , —, —, cellulose butyrate in, 294.
- , —, —, cellulose butyrate-naphthenate in, 789.
- , —, —, cellulose butyro-laurate in, 789.
- , —, —, cellulose ester for, 495.
- , —, —, cellulose ether for, 260.
- , —, —, cellulose laurate in, 789.
- , —, —, cellulose nitrate in, 424.
- , —, —, cellulose propionate in, 294.
- , —, —, cyclohexanone in, 655.
- , —, —, diacetone alcohol in, 655.
- , —, —, diethyl itaconate for, 663.
- , —, —, dimethyl itaconate for, 663.
- , —, —, dipropyl itaconate for, 663.
- , —, —, ethylcellulose for, 164, 294.
- , —, —, ethyl formate solvent in, 438.
- , —, —, gelatin for, 495, 820, 915, 1011.
- , —, —, methylcellulose for, 164, 294.
- , —, —, methylcyclohexanone, in, 655.
- , —, —, nitric acid in, 655.
- , —, —, resin in, 789.
- Glass, laminated, mfr. of, resorcinol monoacetate in, 789.
- , —, —, sugar in, 655.
- , —, —, tolyl phosphate in, 827.
- , —, —, vinyl acetate, polymerized, in, 789.
- , —, —, phenylaldehyde condensate for, 280.
- , —, —, tetralin for, 593.
- , —, —, ultra-violet light, transparent mfr., 766.
- , —, —, lead molybdate in reinforced, 144.
- , —, —, lead stannate in reinforced, 144.
- , —, —, lead tungstate in reinforced, 145.
- , —, —, malleable, *see* Glass, laminated.
- , —, —, mfr., 525.
- , —, —, mercury molybdate in reinforced, 144.
- , —, —, mercury stannate in reinforced, 144.
- , —, —, mercury tungstate in reinforced, 145.
- , —, —, methylcellulose for reinforcing, 144.
- , —, —, molding material containing, 614.
- , —, —, non-shatterable, *see* Glass, laminated; Glass sheet, laminated.
- , —, —, non-splintering, *see* Glass, laminated.
- , —, —, phenol aldehyde condensate as adhesive for, 260.
- , —, —, plate, printing, made using, 648.
- , —, —, powdered, 2193.
- , —, —, cellulose acetate delustrated using, 854.
- , —, —, delustring with, 2194.
- , —, —, plastic made using, 2559.
- , —, —, propyl alcohol in reinforced, 145.
- , —, —, quadruplex, mfr., 2596.
- , —, —, raindrops on, preventing formation, 2396.
- , —, —, reinforced, *see* Glass, laminated.
- , —, —, rubber attaching to, 1098.
- , —, —, safetex, *see* Glass, laminated.
- , —, —, safety, cellulose butyrolaurate in, 1719.
- , —, —, cellulose laurate in, 1719.
- , —, —, ethylcellulose palmitate in mfr., 1669.
- , —, —, mfr., 2584.
- , —, —, translucent, mfr., 2591.
- , —, —, *see also* Glass, laminated.

- Glass, shatterless, see Glass, laminated.*  
—, sheets, joining, cellulose acetate for, 836.  
—, —, —, hydrofluoric acid for, 836.  
—, —, —, sodium silicate acid for, 836.  
—, shock defying, *see Glass, laminated.*  
—, splinterless, *see Glass, laminated; Glass sheet, laminated.*  
—, steaming on, preventing, 2396.  
—, stilbine in reinforced, 145.  
—, strengthened, *see Glass, laminated.*  
—, strengthening, 799.  
—, substitute, mfr. of, 836.  
—, substitute for, 1024.  
—, substitute, mfr. of, cellulose acetate for, 389, 741, 974, 1024.  
—, synthetic, *see Glass, laminated.*  
—, transparent, pane, *see Glass, laminated.*  
—, triplex, *see Glass, laminated.*  
—, unbreakable, *see Glass, laminated.*  
—, unsplinterable, *see Glass, laminated.*  
—, window, substitute for, 2553.  
—, —, —, cellulose acetate as, 625.  
—, wire, artificial, mfr., 2556.  
Glass-cloth, 1079.  
Glassolyn, waterproofing, 139.  
Glass sheets, acetin in uniting, 1570.  
—, benzylcellulose in uniting, 1570.  
—, laminated, mfr., 2582.  
—, phenylol propane in uniting, 1570.  
—, vinyl compound in uniting, 1570.  
Glass substitutes, 2552.  
Glassware, fancy, mfr., 1077.  
Gliadin, cellulose acetate combined with, 992.  
Glider, 2567.  
Globulin, sizing with, 2139.  
Gloves, fabric, mfr. of, 2380.  
Glucal, 1509.  
Glucans, polymeric, 911.  
Glucides, cellulose acetate combined with, 992.  
*Glucomandelic acid, see Amygdalic acid.*  
Gluconitrile, 1500.  
Glucosan, 73, 658, 1107, 1313, 2058.  
—, methylated, 94, 1328.  
*b-Glucosan, 842.*  
Glucosan triacetate, 1107.  
*b-Glucosan triacetate, mfr., 842, 1024.*  
—, properties, 1024.  
Glucosan tribenzoate, 1107.  
Glucose, 330, 657, 1162, 1178, 1320, 1368, 1480, 1507, 2242.  
—, acetate of, 311.  
—, acetated, 318.  
—, alkylated, 1507.  
—, amines solvent for, 2010.  
—, benzylated, 1517.  
—, benzylesters of, mfr., 1514.  
—, benzyl ether of, 69.  
—, cellulose acetate acetylated in presence of, 1055.  
—, cellulose acetate dyed in presence of, 651.  
—, cellulose acetate filament sized using, 1015.  
—, electric charge in fiber reduced by, 922.  
—, grape sugar, *see Dextrose.*  
—, mfr. of, methyl sulfate in, 1264.  
—, methylated, 37, 1507.  
—, reducing with, 199.  
—, size for artificial filament, 1015.  
—, sizing with, 2140.  
—, *see also Dextrose.*  
*a-Glucose, 1102, 1115.*  
*b-Glucose, 1102.*  
*d-Glucose, 1103, 1113.*  
Glucose acetate, 965, 1129, 2058.  
Glucose anhydride, 73, 658, 1162.  
Glucose diacetate, 1937.  
Glucose dibutyrate, 1937.  
Glucose distearate, 1937.  
Glucose ditartrate, 1937.  
Glucose-*b*-glucoside, 43.  
Glucose linoleate, mfr., 533, 642.  
*d-Glucose-6-methyl ether, 280.*  
Glucose oleate, mfr., 642.  
Glucose orthosilicate, benzylcellulose treated with, 1562.  
Glucose pentacetate, 418, 908, 2639.  
—, cellulose acetate delustred by, 946.  
—, delustring with, 2186, 2645.  
—, freezing point of, 875.  
—, *see also Pentacetylglucose.*  
*a-Glucose pentacetate, 918, 1128, 1129.*  
*B-Glucose pentacetate, amines solvent for, 2010.*  
Glucose phenyldesoxine, 6.  
Glucose tetratartrate, 1937.

- Glucosic (iso) acid, see Iso-glucosic acid.*  
 Glucoside, acetation of, 309.  
 —, acetic acid action on, 311.  
 —, alkyl, 2.  
 —, ester of, 311.  
 —, methylated, mfr. of, 79.  
*a*-Glucoside, 1102.  
*b*-Glucoside, 1102.  
*4-b*-Glucoside-*a*-methylmannoside, 1503.  
 —, methylation of, 279.  
*4-b*-Glucosidomannonic acid, 1503.  
*4-b*-Glucosidomannonic acid, methylation of, 279.  
 Glucosonehydrate triacetate, 994.  
 Glucosone triacetate, 994.  
*d*-Glucuronic acid, 1145.  
 Glue, airplane coated with, 2484.  
 —, delustring with, 2183.  
 —, film containing, 486, 2529.  
 —, fish, cellulose acetate coated with, 577.  
 —, formaldehyde indurated, 369.  
 —, glass, laminated, made using, 2585.  
 —, hollow filament made using, 829.  
 —, mfr. of, benzenesulfamid in, 295.  
 —, —, cellulose acetate in, 295.  
 —, —, cellulose ether, 294.  
 —, —, ethylacetanilid in, 294.  
 —, —, ethylcellulose in, 294.  
 —, —, resin, artificial, in, 295.  
 —, —, vinyl acetate in, 294.  
 —, molding material containing, 614.  
 —, plastic made using, 2559.  
 —, scroop produced by, 593.  
*Glutaminic acid, see Glutamic acid.*  
 Glutaric acid, 1953.  
 Glutols, 1618.  
 Glyacol, 1794.  
 Glyceric acid, 1954.  
 —, film made using, 2506.  
 Glyceric esters, 1954.  
 Glyceride, film made using, 1074.  
 —, membrane of cellulose acetate and, 993.  
*Glyceride of boric acid, see Boro-glycerol.*  
 Glycerinated gelatin, gas bag rendered impermeable by, 513.  
*Glycerine, see Glycerol.*  
*Glycerinic acid, see Acid, glyceric.*  
*Glycerite of boric acid, see Boro-glycerine.*  
 Glycerol, 1163, 1497, 1856, 1857, 1874, 1983, 2028, 2054, 2057, 2240, 2427, 2629.  
 —, abietic acid condensed with, 234.  
 —, acetated, stencil sheet made using, 2495.  
 —, —, wetting agent, 2206.  
 —, amines solvent for, 2010.  
 —, azelaic acid condensed with, 1079.  
 —, benzylcellulose made using, 204.  
 —, cellulose acetate plastic of and, 564.  
 —, cellulose acetate dyed using, 530, 547, 711.  
 —, cellulose acetate hydrated with, 380.  
 —, cellulose acetate hydrolyzed by, 779.  
 —, cellulose acetate lubricant, 1023.  
 —, cellulose acetate non-solvent, 336.  
 —, cellulose acetate precipitant, 785.  
 —, cellulose acetate protected by, in mercerizing, 616.  
 —, cellulose acetate softened by, 443, 491, 932, 934.  
 —, cellulose acetate solvent, 691.  
 —, cellulose acetate stabilizer, 643.  
 —, cellulose acetate swelling agent, 715, 960.  
 —, cellulose ether coagulant, 2097.  
 —, cellulose ether coagulation prevented by, 288.  
 —, cellulose ether dyeing using, 2237.  
 —, cellulose ether softener, 303, 2134, 2135, 2218.  
 —, cellulose ether solvent, 106, 1841, 2103, 2409.  
 —, cellulose ether spinning bath containing, 2083.  
 —, cellulose ether wetted out by, 172.  
 —, cellulose nitrate plasticizer, 243.  
 —, cellulose purified by, 1412.  
 —, cellulose treated with, 204, 1537.  
 —, chlorphthalic acid condensed with, 234.  
 —, coagulating methylcellulose by, 1460.  
 —, cotton treated with, 404.  
 —, crepe effect by using, 2333.  
 —, diglycollic acid condensed with, 234.  
 —, dispersing agent for, 2213.

- Glycerol, dye dissolved using, 2235.  
—, ethers of, 309.  
—, ethylcellulose, crystalline, solvent, 1336.  
—, fabric, balloon, made using, 891.  
—, filament cleaned by, 257.  
—, film made using, 1074, 2505, 2515, 2528.  
—, film, non-static, made using, 703.  
—, film cleaned by, 257.  
—, formaldehyde indurated, 369.  
—, gas bag rendered impermeable by, 513.  
—, glass, laminated, made using, 2589, 2595, 2596, 2636.  
—, glass substitute of condensate containing, 836.  
—, ink, copying, stains removed by, 2552.  
—, lacquer containing, 2393, 2427, 2428.  
—, lauric acid condensed with, 234.  
—, light-transforming composition containing, 461.  
—, linoleic acid condensed with, 234.  
—, maleic acid condensed with, 234.  
—, matt effect produced by, 2198.  
—, methylcellulose coagulant, 1460.  
—, methylcellulose coagulation prevented by, 288.  
—, methylcellulose plasticizer, 243.  
—,  $\alpha$ -monocellulose ether, 1399.  
—, naphthenic acid condensed with, 234.  
—, mordant containing, 843, 2317.  
—, pencil stains removed by, 2552.  
—, phthalic acid condensed with, 234.  
—, record, phonograph, made using, 2606.  
—, resin, artificial, of, 2106.  
—, ribbon, typewriter, stains removed by, 2552.  
—, ribbon cleaned by, 257.  
—, ricinoleic acid condensed with, 234.  
—, salicylacetic acid condensed with, 234.  
—, sizing with, 2140.  
—, softener, 2216.  
—, softener for cellulose ether, 164.  
—, solubilizing agent, 2212.  
—, spinning in presence of, 1070.  
Glycerol, static electricity prevented by, 189.  
—, stencil sheet made using, 664, 686, 2492, 2495, 2498.  
—, succinic acid condensed with, 234.  
—, thread cleaned by, 257.  
—, wetting agent, 2206, 2207, 2208.  
—, wool, artificial, made using, 467.  
Glycerol alcohol, cellulose ester coagulated by, 133.  
—, cellulose ether coagulated by, 133.  
Glycerolchlorhydrin, 1857.  
Glycerol chlorhydrin-lignin, 1629.  
Glycerol dichlorhydrin, 1083.  
—, *see also* *Dichlorhydrin; a-Dichlorhydrin*.  
Glyceroldiethyl ether, ethylcellulose lacquer containing, 2411.  
Glycerol dilinoleate, lacquer containing, 1590.  
Glycerol diricinoleate, lacquer containing, 1590.  
Glycerol esters, dispersing agent for, 2213.  
Glycerol furoate, 2000.  
Glycerol jelly, cellulose acetate mordant, 898.  
Glycerol monochlorhydrin, solubilizing agent, 2212.  
Glycerol monochlorhydrineformal, 1886, 1894.  
Glycerolmonoformal, 1839.  
Glycerol-phthalic anhydride, condensate, 2052.  
—, tung oil resins, 2053.  
Glycerol pyromucate, 2000.  
Glycerol triacetate, 1961.  
Glycerophosphoric acid, 1765.  
Glycerose, 1497.  
*Glyceryl, see Diglyceryl, Monoglyceryl, Triglyceryl*.  
Glyceryl abietate, 1955.  
—, benzylcellulose with, 1576.  
—, benzylcellulose lacquer with, 234.  
—, cellulose ester plasticizer, 241.  
—, cellulose ether plasticizer, 194, 241.  
—, ethylbutylcellulose with, 1576.  
—, ethylbutylcellulose and for lacquer mfr., 2426.  
—, ethylbutylcellulose lacquer with, 234.  
—, ethylcellulose with, 1576.  
—, ethylcellulose lacquer with, 234.

- Glyceryl abietate, methylbutylcellulose and for lacquer mfr., 2426.  
 —, printing, intaglio, made using, 2551.  
 Glyceryl acetate, 1857, 1911, 1917, 1923, 1967, 2558.  
 —, acetic acid recovery using, 724.  
 —, cellulose acetate made using, 771.  
 —, cellulose acetate solvent, 1843.  
 —, cellulose ether dyeing using, 2237.  
 —, dispersing agent for, 2213.  
 —, yeast plastic with, 565.  
 Glyceryl acetobenzoate, 1857.  
 Glyceryl acetocaprato, 1925.  
 Glyceryl acetocaproate, 1925.  
 Glyceryl acetocaprylate, 1925.  
 Glyceryl acetolaurate, 1925.  
 Glyceryl acetomyristate, 1925.  
 Glyceryl aceto-oleate, 1925.  
 Glyceryl acetopalmitate, 1925.  
 Glyceryl acetyl-oxyoleate, 1939.  
 Glyceryl acetyl-oxysearate, 1939.  
 —, camphor substitute, 2051.  
 Glyceryl acetyl-ricinoleate, 1939.  
 —, camphor substitute, 2051.  
 Glyceryl adipate, 1939, 1953, 2053.  
 —, cellulose ether plasticizer, 194.  
 Glyceryl-2-amino-4-nitrophenyl ether, cellulose acetate dyed using, 806.  
 —, cellulose ether dyed using, 2252.  
 Glyceryl azeleate, 1079, 1939, 1953.  
 —, cellulose acetate plastifier, 939.  
 Glyceryl benzoate, 1844, 1857, 1863, 1911, 1925, 1949, 1959, 1961, 1967.  
 —, cellulose acetate plastic, 422.  
 —, cellulose acetate plastifier, 569.  
 —, cellulose acetate softener, 661.  
 Glyceryl benzo-camphorate, 1934.  
 Glyceryl benzo-glutarate, 1934.  
 Glyceryl benzo-malate, 1934.  
 Glyceryl benzo-phthalate, 1934.  
 Glyceryl benzo-succinate, 1934.  
 Glyceryl benzo-tartrate, 1934.  
 Glyceryl benzoylbenzoate, 1961, 1962.  
 —, cellulose acetate plastifier, 940, 971.  
 —, cellulose ester combined with, 202.  
 —, cellulose ether combined with, 202.  
 —, lacquer containing, 2393.  
 Glyceryl monobenzoyldiacetate, cellulose acetate plastifier, 508.  
 Glyceryl benzoyl-oxyoleate, 1939.  
 Glyceryl benzoyl-oxysearate, 1939.  
 —, camphor substitute, 2051.  
 Glyceryl benzoyl-ricinoleate, 1939.  
 —, camphor substitute, 2051.  
 Glycerylbenzyl ether, 1870.  
 Glyceryl borate, *see Boroglycerol*.  
 Glyceryl butyrate, cellulose acetate nitrate plasticizer, 435.  
 —, mfr., 1917, 1925, 1937, 2558.  
 —, yeast plastic with, 565.  
 Glyceryl isobutyrate, 1937.  
 Glyceryl camphanate, yeast plastic with, 565.  
 Glyceryl camphorate, 1976.  
 Glyceryl chloracetate, mfr., 580.  
 Glyceryl chloraceto-camphorate, 1934.  
 Glyceryl chloraceto-glutarate, 1934.  
 Glyceryl chloraceto-malate, 1934.  
 Glyceryl chloraceto-phthalate, 1934.  
 Glyceryl chloraceto-succinate, 1934.  
 Glyceryl chloraceto-tartrate, 1934.  
 Glyceryl chlorbenzo-camphorate, 1934.  
 Glyceryl chlorbenzo-glutarate, 1934.  
 Glyceryl chlorbenzo-malate, 1934.  
 Glyceryl chlorbenzo-phthalate, 193.  
 Glyceryl chlorbenzo-succinate, 1934.  
 Glyceryl chlorbenzo-tartrate, 1934.  
 Glyceryl-*a*-chlorhydrin, 1646.  
 —, cellulose ether made using, 2460.  
 —, filter made using, 2460.  
 Glyceryl chlorhydrin lignin, mfr. of, 232.  
 Glyceryl chlorphthalate, benzylcellulose with, 1576.  
 —, benzylcellulose lacquer with, 234.  
 —, ethylbutylcellulose with, 1576.  
 —, ethylbutylcellulose lacquer with, 234.  
 —, ethylcellulose with, 1576.  
 —, ethylcellulose lacquer with, 234.  
 Glyceryl chlorpropiono-camphorate, 1934.  
 Glyceryl chlorpropiono-glutarate, 1934.  
 Glyceryl chlorpropiono-malate, 1934.  
 Glyceryl chlorpropiono-phthalate, 1934.

- Glyceryl chlorpropiono-succinate, 1934.  
 Glyceryl chlorpropiono-tartrate, 1934.  
 Glyceryl cinnamate, 1979.  
 Glyceryl citrate, mfr., 580.  
 Glyceryl cresolate, cellulose acetate plasticizer, 408.  
 Glyceryl cresyl abietate, 1926.  
 Glyceryl cresyl acetate, 1926.  
 Glycerylcresyl benzoate, 1926.  
 Glycerylcresyl phthalate, 1926.  
 Glyceryl diabetate, 1955.  
 Glyceryl diacetate, 1970.  
 —, *see also Diacetin*.  
 Glyceryl diacetomonophenylacetate, 1857.  
 —, cellulose acetate plastifier, 508.  
 Glyceryl diacetopropionate, 1925.  
 Glyceryl diacetyloxystearate, camphor substitute, 2051.  
 Glyceryl dibenzoate, 1925.  
 Glyceryl dibenzoyloxystearate, camphor substitute, 2051.  
 Glyceryldibenzyl, 1809.  
 Glyceryldibenzyl ether, 1872, 1889, 1976.  
 Glyceryl dichlorhydrin, cellulose compound with, 60.  
 —, cellulose etherified by, 1382.  
 Glyceryl diethyl ether, benzylcellulose plastifier, 1579.  
 Glyceryl diformyloxystearate, camphor substitute, 2051.  
 —, benzylcellulose with, 1576.  
 —, benzylcellulose lacquer, 234.  
 —, ethylbutylcellulose with, 1576.  
 —, ethylbutylcellulose lacquer with, 234.  
 —, ethylcellulose with, 1576.  
 —, ethylcellulose lacquer with, 234.  
 Glyceryl  $\alpha$ -dihalohydrin, cellulose etherified by, 1401.  
 Glyceryl dihydroxybehenate, 1940.  
 Glyceryl dilinoleate, 2054.  
 —, ethylcellulose lacquer with, 234.  
 Glyceryl dipropionyloxystearate, camphor substitute, 2051.  
 Glyceryl diricinoleate, 2054.  
 —, ethylcellulose lacquer with, 234.  
 Glyceryl distearate, 1940.  
 Glycerylditolyl ether, benzylcellulose plastifier, 1579.  
 —, benzylcellulose solvent, 1554.  
 —, floor covering made using, 2437.  
 Glyceryl ester, cellulose acetate dyed in presence of, 361.  
 Glyceryl ester, yeast plastic with, 565.  
 Glyceryl ether oxide, 1858.  
 —, cellulose acetate plasticizer, 408.  
 Glycerylethyl ether, mfr., 895.  
 Glyceryl monoformal, cellulose ester plastic, 151.  
 —, cellulose ether plastic, 151.  
 —, cellulose ether plastifier, 154.  
 Glyceryl formate, 1911.  
 —, benzylcellulose dissolved by, 158.  
 —, benzylcellulose solvent, 1567.  
 —, cellulose formate solvent, 640.  
 —, formylnitrate solvent, 640.  
 —, shellac dissolved by, 158.  
 —, yeast plastic with, 565.  
 Glyceryl formyloxyoleate, 1939.  
 Glyceryl formyl oxystearate, 1939.  
 —, camphor substitute, 2051.  
 Glyceryl formyl-ricinoleate, 1939.  
 —, camphor substitute, 2051.  
 Glyceryl glycollo-camphorate, 1934.  
 Glyceryl glycollo-glutarate, 1934.  
 Glyceryl glycollo-malate, 1934.  
 Glyceryl glycollo-phthalate, 1934.  
 Glyceryl glycollo-succinate, 1934.  
 Glyceryl glycollo-tartrate, 1934.  
 Glyceryl *hexahydrobenzoate*, *see Glyceryl naphthenate*.  
 Glyceryl hexastearate, 1940.  
 Glyceryl lactate, cellulose acetate nitrate plasticizer, 435.  
 Glyceryl lactate, mfr., 580.  
 Glyceryl monolactate, cellulose acetate shrinkage prevented by, 804.  
 Glyceryl lacto-camphorate, 1934.  
 Glyceryl lacto-glutarate, 1934.  
 Glyceryl lacto-malate, 1934.  
 Glyceryl lacto-phthalate, 1934.  
 Glyceryl lacto-succinate, 1934.  
 Glyceryl lacto-tartrate, 1934.  
 Glyceryl laurate, benzylcellulose with, 1576.  
 —, benzylcellulose lacquer with, 234.  
 —, ethylbutylcellulose with, 1576.  
 —, ethylbutylcellulose lacquer with, 234.  
 —, ethylcellulose with, 1576.  
 —, ethylcellulose lacquer with, 234.  
 Glyceryl linoleate, benzylcellulose with, 1576.  
 —, benzylcellulose lacquer with, 234.  
 —, ethylbutylcellulose with, 1576.

- Glyceryl linoleate, ethylbutylcellulose lacquer with, 234.  
 —, ethylcellulose with, 1576.  
 —, ethylcellulose lacquer with, 234.  
 —, lacquer containing, 2427.  
 Glyceryl *mono*-linoleate, ethylcellulose lacquer with, 234.  
 Glyceryl malate, mfr., 580, 1949, 1950.  
 Glyceryl maleate, 580, 1911, 1949, 2053, 2054.  
 —, benzylcellulose with, 1576.  
 —, benzylcellulose lacquer with, 234.  
 —, ethylbutylcellulose with, 1576.  
 —, ethylbutylcellulose lacquer with, 234.  
 —, ethylcellulose with, 1576.  
 —, ethylcellulose lacquer with, 234.  
 Glyceryl methyl ether, mfr, 895.  
 Glyceryl monoabietate, 1955.  
 Glyceryl monoacetate, *see Monoacetin (a)*.  
 Glyceryl monobenzoate, 1925, 1961.  
 Glyceryl monochlorhydrin, 1083, 1395.  
 —, cellulose acetate dyed using, 547.  
 —, cellulose compound with, 60.  
 —, cellulose etherified by, 1382.  
 Glycerylmonochlorhydrinformol, 1857.  
 Glyceryl monocinnamate, 1979.  
 Glyceryl monoether, cellulose ether solvent, 2103.  
 Glyceryl monoformal, 1875.  
 Glyceryl monolinoleate, 2054.  
 —, lacquer containing, 1590.  
 Glyceryl mono-oleate, 1925.  
 —, filament softened by, 1069.  
 —, softener, 2215.  
 Glyceryl monoricinoleate, 2054.  
 —, lacquer containing, 1590.  
 Glyceryl monostearate, 1940.  
 Glyceryl naphthalate, 1976.  
 —, plastic containing, 475.  
 Glycerylnaphthenate, 1965.  
 —, benzylcellulose with, 1576.  
 —, benzylcellulose lacquer with, 234.  
 —, cellulose acetate plastifier, 481.  
 —, ethylbutylcellulose, 1576.  
 —, ethylbutylcellulose lacquer with, 234.  
 —, ethylcellulose with, 1576.  
 —, ethylcellulose lacquer with, 234.  
 Glycerylnaphthenate, leather, artificial, made using, 481.  
 —, stencil made using, 663.  
 —, stencil sheet made using, 663, 2488.  
 Glyceryl nitrate, 1975.  
 —, *see also Nitroglycerol*.  
 Glyceryl octadecadien 9.11-acid, ink, marking, containing, 2330.  
 Glyceryl 9.11-octadecadien-acid, softener, 2216.  
 Glyceryl octadeca-9.11-oate, 1926.  
 Glyceryl oleate, cellulose ether softener, 2354.  
 Glyceryl oleo-camphorate, 1934.  
 Glyceryl oleo-glutarate, 1934.  
 Glyceryl oleo-malate, 1934.  
 Glyceryl oleo-phthalate, 1934.  
 Glyceryl oleo-succinate, 1934.  
 Glyceryl oleo-tartrate, 1934.  
 Glyceryl orthosilicate, benzylcellulose treated with, 1562.  
 Glyceryl oxalate, mfr., 580, 1911, 1917, 2053.  
 Glyceryl palmitate, 2054.  
 —, cellulose ether softener, 2354.  
 Glyceryl palmito-camphorate, 1934.  
 Glyceryl palmito-glutarate, 1934.  
 Glyceryl palmito-malate, 1934.  
 Glyceryl palmito-phthalate, 1934.  
 Glyceryl palmito-succinate, 1934.  
 Glyceryl palmito-tartrate, 1934.  
 Glyceryl phenolate, cellulose acetate plasticizer, 408.  
 Glycerylphenyl abietate, 1926.  
 Glycerylphenyl acetate, 1926.  
 Glycerylphenyl benzoate, 1926.  
 Glyceryl phenyl ether, mfr, 895.  
 —, wetting out agent, 1236.  
 Glycerylphenyl phthalate, 1926.  
 Glyceryl phthalate, 1911, 1937, 1951, 1976, 1978.  
 —, benzylcellulose with, 1576.  
 —, benzylcellulose lacquer with, 234.  
 —, constants of, 2055.  
 —, dioxane solvent for, 1876.  
 —, ethylbutylcellulose with, 1576.  
 —, ethylbutylcellulose lacquer with, 234.  
 —, ethylcellulose with, 1576.  
 —, ethylcellulose lacquer with, 234.  
 —, plastic containing, 475.  
 —, yeast plastic with, 565.  
 Glyceryl phthalate-linoleate, 1976.  
 Glyceryl phthalate resin, 1911.  
 —, acetone as solvent of, 1885.

- Glyceryl phthalic anhydride resin, foil made using, 999.
- Glyceryl phthalyl-benzoate, 1978.
- Glyceryl phthalyl-oleate, 1978.
- Glyceryl phthalyl-palmitate, 1978.
- Glyceryl phthalyl-salicylate, 1978.
- Glyceryl pimelate, 1939, 1953.
- , cellulose acetate plastifier, 939.
- Glyceryl polyricinoleate mfr., 1067.
- Glyceryl propionate, mfr., 1917, 1925, 1934.
- Glyceryl propiono-camphorate, 1934.
- Glyceryl propiono-glutarate, 1934.
- Glyceryl propiono-malate, 1934.
- Glyceryl propiono-phthalate, 1934.
- Glyceryl propiono-succinate, 1934.
- Glyceryl propiono-tartrate, 1934.
- Glyceryl propionyl-oxystearate, 1939.
- , camphor substitute, 2051.
- Glyceryl propionyl ricinoleate, 1939.
- , camphor substitute, 2051.
- Glyceryl propyl ethers, cellulose ether dyeing using, 2237.
- Glyceryl pyruvate, 1962.
- Glyceryl resin, benzylcellulose lacquer with, 234.
- Glyceryl ricinoleate, 1939.
- , benzylcellulose with, 1576.
- , benzylcellulose lacquer with, 234.
- , ethylbutylcellulose with, 1576.
- , ethylbutylcellulose lacquer with, 234.
- , ethylcellulose with, 1576.
- , ethylcellulose lacquer with, 234.
- Glyceryl *mono*-ricinoleate, ethylcellulose lacquer with, 234.
- Glyceryl salicylacetate, benzylcellulose with, 1576.
- , benzylcellulose lacquer, 234.
- , ethylbutylcellulose with, 1576.
- , ethylbutylcellulose lacquer with, 234.
- , ethylcellulose with, 576.
- , ethylcellulose lacquer with, 234.
- Glyceryl salicylate, 1962.
- , plastic made containing, 2565.
- Glyceryl salicylo-camphorate, 1934.
- Glyceryl salicylo-glutarate, 1934.
- Glyceryl salicylo-malate, 1934.
- Glyceryl salicylo-phthalate, 1934.
- Glyceryl salicylo-succinate, 1934.
- Glyceryl salicylo-tartrate, 1934.
- Glyceryl sebacate, 1939, 1953.
- , cellulose acetate plastifier, 939.
- Glyceryl stearate, cellulose ether softener, 2354.
- Glyceryl stearo-camphorate, 1934.
- Glyceryl stearo-glutarate, 1934.
- Glyceryl stearo-malate, 1934.
- Glyceryl stearo-phthalate, 1934.
- Glyceryl stearo-succinate, 1934.
- Glyceryl stearo-tartrate, 1934.
- Glyceryl suberate, 1939, 1953.
- , cellulose acetate plastifier, 939.
- Glyceryl succinate, benzylcellulose with, 1576.
- , benzylcellulose lacquer with, 234.
- , ethylbutylcellulose with, 1576.
- , ethylbutylcellulose lacquer with, 234.
- , ethylcellulose with, 1576.
- , ethylcellulose lacquer with, 234.
- , mfr., 580, 1911, 1949, 2053.
- Glyceryl tartrate, mfr., 580, 1917, 1962.
- Glyceryl tetrastearate, 1940.
- Glyceryl *p*-toluenesulfamide, 2034.
- Glyceryl *p*-toluenesulfonate, 2034.
- Glyceryltriacetate*, see *Triacetin*.
- Glyceryl triacetyloxystearate, camphor substitute, 2051.
- Glyceryl tribenzoyloxystearate, camphor substitute, 2051.
- Glyceryl tribrom-hydrin*, see *Tri-brom-hydrins*.
- Glyceryltribromide*, see *Allyl tribromide*.
- Glyceryl trichlor-hydrin*, see *Trichlor-hydrin*.
- Glyceryl triformate*, see *Glyceryl formate*.
- Glyceryl triformyloxystearate, camphor substitute, 2051.
- Glyceryl trilactate, cellulose ester combined with, 202.
- , cellulose ether combined with, 202.
- Glyceryl trinitrate, 1857.
- , see also *Nitro-glycerol*.
- Glyceryl tripropionate, 1925.
- Glyceryl tripropionyloxystearate, camphor substitute, 2051.
- Glyceryl tristearate, 1940.
- Glyceryl-trithiocarbonate, viscose treated with, 293.
- Glyceryl valerate, mfr., 1917.
- Glycide, 1660, 1831, 1857, 1886, 1894.
- Glycide acetate, 1857, 1886, 1894.
- Glycide ether, 1894.



- Glycidic acid, carbohydrate compound with, 64.  
—, cellulose compound with, 64.  
—, dextrin compound with, 64.  
—, starch compound with, 64.  
—, sugar compound with, 64.  
—, tragacanth compound with, 64.  
Glycidic ether, 1894.  
Glycidol, 1831, 1858.  
*Glycin*, see *Glycocol*.  
Glycine, 1893.  
Glycines, cellulose acetate dyed using, 643.  
Glycocol, cellulose acetate stabilizer, 643.  
—, mfr., 1012, 2027.  
Glycoformal, cellulose ether plastifier, 154.  
Glycogen, 1156.  
—, acetylation, 1051.  
—, alkylated, 1495.  
—, membrane of cellulose acetate and, 995.  
—, methylation, 1051, 1495.  
Glycogen triacetate, 1436.  
Glycol, 1837, 1838, 1845, 1874, 1875, 1883, 2080.  
—, benzylcellulose made using, 204.  
—, cellulose acetate hydrated with, 380.  
—, cellulose acetate hydrolized by, 744.  
—, cellulose acetate precipitant, 785.  
—, cellulose ether coagulant, 2097.  
—, cellulose ether coagulation prevented by, 288.  
—, cellulose ether dyeing using, 2237.  
—, cellulose ether softener, 2134, 2135.  
—, cellulose ether spinning bath containing, 2083.  
—, cellulose nitrate plasticizer, 243.  
—, cellulose purified by, 1412.  
—, cellulose treated with, 204, 1537.  
—, crepe effect by using, 2333.  
—, dispersing agent for, 2213.  
—, dye dissolved using, 2235.  
—, filament cleaned by, 257.  
—, film cleaned by, 257.  
—, film made using, 2505.  
—, methylcellulose coagulant, 1460.  
—, methylcellulose coagulation prevented by, 288.  
—, methylcellulose plasticizer, 243.  
Glycol, record, phonograph, made using, 2606.  
—, ribbon cleaned by, 257.  
—, spinning in presence of, 1070.  
—, thread cleaned by, 257.  
—, wetting agent, 2206.  
—, see also *Diglycol*; *Ethyleneglycol*; *Monoglycol*; *Triglycol*.  
*a*-Glycol, 1874.  
—, 1,3-butyleneglycol acetal made from, 534.  
—, cycloacetals made from, 534.  
—, ethylene butylidene ether made from, 534.  
—, ethylene ethylidene ether made from, 534.  
*b*-Glycol, 1874.  
—, 1,3-butyleneglycol made from, 534.  
—, 1,3-butyleneglycol acetal made from, 534.  
—, cycloacetals made from, 534.  
—, ethylene ethylidene ether made from, 534.  
Glycol abietate, 1954, 2054.  
—, pictures, transfer, made using, 2551.  
Glycol acetate, acetic acid recovery using, 724.  
—, cellulose acetate precipitating bath component, 817.  
—, cellulose acetate solvent, 668.  
—, cellulose ether dyeing using, 2237.  
—, film made using, 2505.  
—, film identified by using, 669.  
—, mfr., 1917, 1920, 1921.  
—, strip, photographic film, printing on, made using, 2535.  
Glycol monoacetate, cellulose acetate solvent, 475, 801.  
Glycol adipate, 1953.  
Glycol alcohol, cellulose ester coagulated by, 133.  
—, cellulose ether coagulated by, 133.  
Glycol mono-alkyl ester, cellulose ether solvent, 156.  
Glycol mono-alkyl ether, cellulose ether solvent, 156.  
Glycol-2-amino-4-nitrophenyl ether, cellulose acetate dyed using, 805.  
—, diazotized, cellulose ether dyed using, 2252.  
Glycol anthranilate, 1964.  
Glycol aspartate, 1964.  
Glycol azeleate, 1953.

- Glycol benzoate, 1959, 1961, 1964.  
—, cellulose acetate plastifier, 569.  
Glycolbutyl ether, mfr., 895.  
Glycolmonobutylether, ethylbutylcellulose solvent, 288.  
—, ethylpropylcellulose solvent, 288.  
—, methylbutylcellulose solvent, 288.  
—, methylpropylcellulose solvent, 288.  
Glycol butyrate, mfr., 1917.  
Glycol camphorate, 1978.  
Glycolcellulose, fabric coated using, 2486.  
—, ink, copying, stains removed by, 2552.  
—, mfr., 1380, 1381, 1382, 1384, 1390, 2486.  
—, pencil stains removed by, 2552.  
—, ribbon, typewriter, stains removed by, 2552.  
Glycolcellulose acetate, 1388.  
Glycolcellulose xanthacetic acid, 1764.  
Glycol chloracetate, mfr., 580.  
Glycolchlorhydrin, fabric printed with, 2645.  
—, mfr., 482, 548, 2645.  
—, *see also Ethylene chlorhydrin*.  
Glycol cinnamate, 1964, 1978.  
Glycol citrate, mfr., 580, 1978.  
*Glycol cyanhydrin, see Ethylene cyanhydrin*.  
Glycoldextrin, 1381.  
Glycol diabietate, 1955.  
Glycol diacetate, benzylcellulose solvent, 1555.  
—, cellulose acetate solvent, 801.  
—, cellulose ether ink containing, 2474.  
—, mfr., 475, 680, 1846, 1849, 1853, 1872, 1904, 1947, 1973.  
—, physical constants, 1792.  
—, properties, 725.  
Glycol di-alkyl ester, cellulose ether solvent, 156.  
Glycol di-alkyl ether, cellulose ether solvent, 156.  
—, lacquer containing, 2418.  
*Glycol dibromide, see Ethylene bromide*.  
*Glycol dichloride, see Ethylene chloride*.  
Glycol diethyl ether, cellulose acetate solvent, 801.  
Glycol diformate, 1911.  
—, benzylcellulose dissolved, 158.  
—, benzylcellulose solvent, 1567.  
—, cellulose ester solvent, 198.  
—, cellulose ether solvent, 198.  
—, shellac dissolved by, 158.  
*Glycol di-iodide, see Ethylene iodide*.  
Glycoldimethyl ether, 1857.  
—, cellulose acetate solvent, 801.  
*Glycol dinitrate, see Ethylene nitrate*.  
Glycol erucate, 1938.  
—, cellulose acetate plasticizer, 462.  
Glycol esters, 1847.  
—, cellulose acetate dyed in presence of, 361.  
Glycol ether, 1845, 1847, 1850, 1855.  
—, luster preserving by, 2171.  
—, wetting agent, 2207.  
—, uses, 628.  
Glycol ether acetate, 1849.  
Glycol-ether-lignin, mfr. of, 232, 1629.  
Glycol mono-ethyl ester, cellulose ether solvent, 156.  
Glycol monoethyl ether, cellulose ether solvent, 156.  
—, ethylbutylcellulose solvent, 288.  
—, ethylpropylcellulose solvent, 288.  
—, methylbutylcellulose solvent, 288.  
—, methylpropylcellulose solvent, 288.  
Glycolformal, 1839.  
Glycol formate, 1911.  
Glycol monoformate, benzylcellulose dissolved by, 158.  
—, cellulose ester solvent, 198.  
—, cellulose ether solvent, 198.  
—, shellac dissolved by, 158.  
Glycol furoate, 2000.  
Glycol gallate, 1964.  
*Glycol hexahydrobenzoate, see Glycol naphthenate*.  
Glycol lactate, mfr., 580.  
Glycollic acid, 186, 1692, 1721, 1722, 1741, 2319.  
—, cellulose acetate printing using, 608.  
—, cellulose ether of, fabric coated using, 2486.  
—, —, mfr., 56, 2486.  
—, cellulose ether softener, 2153, 2156, 2183.  
—, cellulose ether solvent, 141.

- Glycollic acid, cellulose ether swelling agent, 110, 2221.  
—, delustring by, 283, 286, 2184, 2345.  
—, dispersing agent for, 2214.  
—, dye removed from cellulose acetate by, 825.  
—, film made using, 2506.  
—, matt effect produced by, 286.  
—, pattern effects on cellulose acetate by, 774.  
Glycollic anhydride, 187, 1724.  
Glycollic esters, 1941, 1991.  
—, thio ethers of, cellulose acetate plastifier, 661.  
Glycol-lignin, mfr. of, 232, 1631.  
—, methylated, 1628.  
Glycol-lignin ethers, mfr., 1628.  
Glycol-lignin nitrates, mfr. of, 232.  
Glycol linoleate, 1938.  
—, cellulose acetate plasticizer, 462.  
Glycol linolenate, 1938.  
—, cellulose acetate plasticizer, 462.  
Glycol malate, mfr., 580, 1950, 1964.  
Glycol maleate, mfr., 580.  
Glycol malonate, 1964.  
Glycol mandelate, 1964.  
Glycolmethylene ether, *b*-chloroethyl ether, in mfr. of, 1066.  
Glycolmethyl ether, 1857.  
Glycol methylethyl ether, cellulose acetate solvent, 801.  
Glycol monoabietate, 1955.  
Glycol monoacetate, 1849, 1853, 1920, 1921.  
—, cellulose acetate softener, 1074.  
—, physical constants, 1792.  
—, record, phonograph, made using, 2606.  
—, *see also Ethylene glycol monoacetate*.  
Glycolmonoalkyl ester, lacquer containing, 2418.  
Glycol monoalkyl ether, 1885.  
—, lacquer containing, 2418.  
Glycol monocinnamate, 1979.  
Glycol monoethyl ether, 1601, 1970.  
—, lacquer containing, 2418.  
Glycol monoformate, 1911.  
—, benzylcellulose solvent, 1567.  
Glycol monomethyl ether, 2321.  
—, constants of, 517.  
—, ethylbutylcellulose solvent, 288.  
—, ethylpropylcellulose solvent, 288.  
Glycol monomethyl ether, methylbutylcellulose solvent, 288.  
—, methylpropylcellulose solvent, 288.  
Glycol monomethyl ether acetate, 1897.  
Glycol naphthenate, 1965.  
—, cellulose acetate plastifier, 481.  
—, leather, artificial, made using, 481.  
Glycol naphthoate, 1964.  
Glycol oleate, 1941.  
—, cellulose ether softener, 2354.  
Glycol orthosilicate, benzylcellulose treated with, 1562.  
Glycol oxalate, mfr., 580, 1917.  
Glycol palmitate, cellulose ether softener, 2354.  
Glycol phthalate, 1075, 1975.  
—, cellulose acetate softener, 2398.  
Glycol phthalate resin, cellulose acetate solvent, 801.  
Glycol pimelate, 1953.  
Glycol propionate, mfr., 1917.  
Glycol pyromucate, 2000.  
Glycol ricinoleate, 1941.  
Glycols, mfr., 488, 627, 729.  
—, wetting agent, 2210.  
*mono*-Glycols, cellulose ester solvent, 57.  
—, cellulose ether solvent, 57.  
Glycol salicylate, 1964.  
—, plastic made containing, 2565.  
Glycol sebacate, 1953.  
Glycol stearate, cellulose ether softener, 2354.  
Glycol suberate, 1953.  
Glycol succinate, mfr., 580, 1964.  
Glycol tartrate, mfr., 580, 1917, 1964.  
Glycol toluate, 1964.  
Glycoltrimethyl ether, 1857.  
Glycol-trithiocarbonate, viscose treated with, 293.  
*Glycoluril*, *see Acetylene urea*.  
Glycol valerate, mfr., 1917.  
Glycolvinylethyl ether, 1093.  
Glycose, 2315.  
Glycuronic acid, 1182.  
*Glycylalcohol*, *see Glycerol*.  
Glyzein A, 2351, 2352.  
—, cellulose acetate dyed using, 650.  
Glykom, 649.  
*Glyoxyldiureid*, *see Allantoin*.  
*Glyoxylic acid*, *see Glyoxalic acid*.  
Glyptal, 1949, 1973.

- Glyptal, leather, artificial, made using, 2462.  
 —, plastic containing, 2570.  
*Glyssol*, see *Glycerolamino salicylate*.  
 Goat hair, filaments from, mfr., 1000.  
 Gold, cellulose acetate dyed, 606.  
 —, cellulose ether dyed, 2254, 2272.  
 —, cellulose ether impregnated with, 2480.  
 —, film dyed, 2519.  
 —, film, opaque, made using, 248.  
 —, imitation, aluminum in mfr., 457.  
 —, —, cellulose acetate in mfr., 457.  
 —, —, copal in mfr., 457.  
 —, —, mastic in mfr., 457.  
 —, —, resins in mfr., 457.  
 —, —, sandarac in mfr., 457.  
 —, orange, cellulose acetate dyed, 777.  
 —, reddish, cellulose ether dyed, 2293.  
 Gold amyl phthalate, 1975.  
 Goldbeaters skin, 2482.  
 —, cellulose acetate as substitute for, 592.  
 Gold-bronze, dull effect produced using, 2363.  
 —, film, opaque, made using, 2526.  
 —, lacquer containing, 2424.  
 —, matt effect produced using, 2363.  
 —, transfer, gold, made using, 2550.  
 Gold butyl phthalate, 1975.  
 Gold(ic) chloride, ethylcellulose solution of, 2447.  
 Golden rod, 2044.  
 Golden-yellow, cellulose ether dyed, 67.  
 Gold ethyl phthalate, 1975.  
 Goldfish, pearl essence made using, 2616.  
 Goldfish scales, artificial pearls from, 46.  
 —, chatoyant effect produced with, 566.  
 —, nacreous effect produced with, 566.  
*Gold foil*, see *Foil, gold*.  
 Gold leaf, ethyl chloride in mfr., 1274.  
 Gold methyl phthalate, 1975.  
 Gold propyl phthalate, 1975.  
 Gold salt, ethylcellulose solution of, 2447.  
 —, methylcellulose solution of, 2447.  
 Gold selenide, mfr., 2447.  
 Gonorrhoea, cellulose ether in treatment of, 2448.  
*Gossypose*, see *Raffinose*.  
*Grain alcohol*, see *Ethyl alcohol*.  
*Grain split*, see *Skins*.  
*Gramophone*, see *Phonograph*.  
*Gramophone record*, see *Phonograph record*.  
 Grape sugar, 314.  
 —, acetating, 320.  
 —, see also *Dextrose*; *Glucose*.  
 Graphite, benzylcellulose combined with, 2543.  
 —, brush made using, 254.  
 —, cellulose ether combined with, 2417.  
 —, cellulose ether plastic containing, 150.  
 —, conductor, electric, containing, 2442.  
 —, emulsion containing, 2453.  
 —, ethylcellulose combined with, 2543.  
 —, lacquer and cellulose ether with, 153.  
 —, metallization of, textiles using, 2362.  
 —, methylcellulose combined with, 2543.  
 —, plaster and cellulose ether with, 153.  
 —, powder, black, containing, 2470.  
 —, putties and cellulose ether with, 153.  
*Graphophone*, see *Phonograph*.  
 Gray, reddish, cellulose ether dyed, 2286.  
 Greaseproofing, cellulose acetate for, 688.  
 Green, blue, cellulose ether dyed, 2250, 2265, 2272, 2273, 2274, 2282.  
 —, bluish, cellulose ester dyed, 290.  
 —, —, cellulose ether dyed, 198, 290, 2242, 2246.  
 —, cellulose acetate dyed, 493, 618, 676, 716, 717.  
 —, cellulose ester dyed, 125, 201.  
 —, cellulose ether dyed, 122, 125, 161, 165, 201, 297, 298, 2229, 2243, 2251, 2274, 2282, 2296.  
 —, fluorescent, cellulose ether dyed, 2258, 2295.

- Greenhouse, roofing, cellulose ether for, 194.  
Green straw, acetylating, 1026.  
—, purifying, 1026.  
Grey, blue, cellulose acetate dyed, 917.  
—, reddish, cellulose acetate dyed, 751.  
—, —, cellulose ester dyed, 180.  
—, —, cellulose ether dyed, 180.  
—, steel, cellulose acetate dyed, 612.  
—, violet, cellulose acetate dyed, 937.  
—, —, cellulose ether dyed, 2254.  
*Grignard's reagent*, see *Magnesium methyl iodide*.  
*Grillo process*, see *Sulfuric acid*, mfr. of.  
Guaiac, 2044.  
—, acetone as solvent of, 1885.  
—, amyl furoate solvent for, 1997.  
—, butyl furoate solvent for, 1997.  
—, dioxane solvent for, 1875.  
—, ethyl furoate solvent for, 1997.  
—, furfural solvent for, 1997.  
—, furfuryl alcohol solvent for, 1997.  
—, methyl furoate solvent for, 1997.  
—, propyl furoate solvent for, 1997.  
—, solvents for, 1849.  
—, tetrahydrofurfuryl alcohol solvent for, 1997.  
—, toluene solvent for, 1805.  
Guaiacol, 1175, 1861, 1870, 1873, 1889, 1966, 2020.  
—, acetic acid recovered using, 581.  
—, amines solvent for, 2010.  
—, cellulose acetate swelling agent, 908.  
—, cellulose ether collodion containing, 2445.  
—, cellulose ether solvent, 106.  
—, crepe effect using, 2334.  
—, delustring with, 210, 2190.  
—, methyl sulfate in mfr. of, 1264.  
Guaiacol acetate, 1861, 1929, 2448.  
—, cellulose acetate plasticizer, 1042.  
*Guaiacol benzoate*, see *Benzoyl-guaiacol*.  
*Guaiacol cinnamate*, see *Styracin*.  
*Guaiacol ether of carbonic acid*, see *Guaiacol carbonate*.  
*Guaiacol salicylate*, see *Guaiacol salol*.  
Guanidine, 1645, 1748, 1764, 1768, 2028.  
—, alkylated, cellulose ester dyed using, 264.  
—, —, cellulose ether dyed using, 264.  
—, aralkylated, cellulose ester dyed using, 264.  
—, —, cellulose ether dyed using, 264.  
—, arylated, cellulose ester dyed using, 264.  
—, —, cellulose ether dyed using, 264.  
—, benzylcellulose combined with, 282.  
—, benzylcellulose loaded with, 1590.  
—, butylcellulose combined with, 282.  
—, cellulose acetate dyed using, 530, 531, 672.  
—, cellulose acetate hydrated in presence of, 356.  
—, cellulose acetate stabilizer, 643.  
—, cellulose acetate swelling agent, 636.  
—, cellulose compounds of, 89.  
—, cellulose dixanthate combined with, 148.  
—, cellulose ester swelled by, 132.  
—, cellulose ether dyeing assistant, 2222.  
—, cellulose ether dyed using, 2269.  
—, cellulose ether precipitant, 2087.  
—, cellulose ether softener, 2155, 2183.  
—, cellulose ether solvent, 141, 186.  
—, cellulose ether swelled by, 132.  
—, cellulose ether swelling agent, 217.  
—, cellulose xanthate combined with, 148.  
—, coating containing, 282.  
—, delustring with, 217.  
—, dispersing agent for, 2214.  
—, ethylcellulose loaded with, 1590.  
—, film containing, 282.  
—, film preservative, 1586.  
—, lacquer containing, 282.  
—, stabilizer, 1564.  
—, starch xanthate combined with, 148.  
—, substitute, butylcellulose and, 1340.  
—, swelling cellulose ether with, 217.

- Guanidine nitrate, 2031.  
—, amines solvent for, 2010.  
Guanidine nitrate, cellulose acetate hydrolyzed using, 1014.  
Guanin, 2613.  
—, barium and, 2612.  
—, extraction of, 2617.  
—, properties, 2614.  
—, purifying, 2615.  
*Guanyl guanidine*, see *Biguanide*.  
*Guaranine*, see *Caffeine*.  
Guardsman blue, cellulose acetate dyed, 1034.  
Guide-funnel, cellulose acetate covered, 933.  
*Gum accroides*, see *Acaroid*.  
Gum arabic, amines solvent for, 2011.  
—, see also *Acacia*; *Arabic gum*.  
*Gum Benjamin*, see *Benzoin*.  
*Gum benzoin*, see *Benzoin*.  
"Gum cornifan," glass, laminated, made using, 517.  
Gum karaya, stencil sheet made using, 2491.  
Gum lac, alcohol solidified using, 486.  
—, record, phonograph, containing, 2604.  
*Gummic acid*, see *Arabic acid*.  
Gums, cellulose acetate delustred using, 607.  
—, fabric treated with, 2344.  
—, membrane of cellulose acetate and, 993.  
*Gum tragacanth*, see *Tragacanth*.  
Gun-cartridge, cellulose for, 449.  
—, waterproofing, 449.  
*Guncotton*, compressed, see *Cellulose nitrate compressed*.  
—, drying, see *Cellulose nitrate, drying*.  
—, see also *Cellulose nitrate*.  
*Guncotton primers*, see *Cellulose nitrate primers*.  
*Guncotton slabs*, see *Cellulose nitrate slabs*.  
Gunpowder, benzylcellulose for coating, 158.  
—, benzylcellulose in mfr. of, 2470.  
—, cellulose acetate for coating, 158.  
—, combustion of, reducing, 158.  
—, —, retarding, 1568.  
—, ethylcellulose for coating, 158.  
—, ethylcellulose in mfr. of, 2470.  
Gun stock, asbestos in mfr. of, 588.  
—, briar root in mfr. of, 588.  
Gun stock, cellulose acetate in mfr. of, 588.  
—, manganese in mfr. of, 588.  
—, meerscham in mfr. of, 588.  
Gut, cellulose distearate lacquer for coating, 991.  
—, substitute, cotton impregnated with cellulose acetate for, 638.  
—, —, hemp impregnated with cellulose acetate for, 638.  
—, —, jute impregnated with cellulose acetate for, 638.  
—, —, ramie impregnated with cellulose acetate for, 638.  
—, —, silk impregnated with cellulose acetate for, 638.  
—, —, wool impregnated with cellulose acetate for, 638.  
Gut-skins, cellulose acetate for separating, 647.  
Guttapercha, cellulose acetate solvent, 1819.  
—, cellulose naphthenate as substitute for, 788.  
—, cellulose naphthenate-oleate as substitute for, 788.  
—, chlorbenzene solvent of, 201.  
—, dichlormethane solvent of, 201.  
—, ink containing, 2547.  
—, lacquer containing, 2399.  
—, metal coated using, 790.  
—, starch naphthenate-oleate-stearate as substitute for, 788.  
—, substitute cellulose acetate for, 482.  
—, wood coated with, 201, 790.  
—, xylene solvent of, 201.  
*Gynoval*, see *Isobornyl isovalerate*.  
*Gypsum*, see *Calcium sulfate*.  
Gyrophoric acid, 1164.  
  
H-acid, 1087, 1744.  
—, amines solvent for, 2011.  
—, nitrobenzylcellulose dyed with, 1597.  
Haemetin, cellulose acetate dyed by, 512.  
Hagen-Poiseuille law, 1114, 1115, 1557.  
Hagolit, 2567.  
Hair, wool, artificial, made using, 467.  
Halation, avoiding, 2509.  
Haloalkylcellulose, 1397.  
4-Halo-1,3-dinitro-6-carboxylbenzene, 157.

- 4-Halo-3,5-dinitro-1-carboxyl-benzene, 157.  
 1-*b*-Haloethylpiperidine, 1746.  
*b*-Halogenethyl ketone, mfr., 710.  
 Halo-quinol, cellulose ether dyed using, 265.  
 Halo-toluquinol, cellulose ether dyed using, 265.  
*Hand decorated leather, see Leather, hand decorated.*  
 Handkerchief, imitation, cellulose acetate in mfr., 996.  
 —, mfr., 695.  
 Handles, cellulose acetate in mfr. of, 559.  
 —, decorating, cellulose acetate for, 715.  
 "Hard spirits," 335.  
*H. A. Solvent, see Cyclohexanyl acetate.*  
 Hats, cellulose ether for mfr. of, 2377.  
 —, crown, cellulose acetate impregnated, 423.  
 —, stiffening, cellulose acetate for, 423.  
 Hatschek's equation, 840.  
 Heads, spinning, cleaning, 2110.  
*Heavy acetone oil, see Actone oil, heavy.*  
 Heavy oil, cellulose acetate solvent, 474.  
*Heavy spar, see Barium sulfate.*  
*Heddecetyl alcohol, see Cetyl alcohol.*  
 Hedeoma oil, 1964.  
 —, cellulose acetate solvent, 1818, 1819.  
 Heel, celluloid in mfr., 2472.  
 —, shoe, *see Shoe heel.*  
 —, wooden, benzyl alcohol in mfr. of, 525.  
 —, —, dichlorethylene in mfr. of, 525.  
 —, —, dichlorhydrin, in mfr. of, 525.  
 —, —, lithopone in mfr. of, 525.  
 —, —, triacetin in mfr. of, 525.  
 Helindones, cellulose acetate dyed with, 637.  
 Helio fast colors, 2321.  
 Helio Fast Red RL, 885.  
 Heliotrope, cellulose acetate dyed, 749, 751.  
 —, cellulose ether dyed, 181.  
 Heliotrope I, cellulose acetate dyed using, 653.  
*Heliotropin, see Piperonal.*  
 Heliotropine, 403.  
 Hematine, acetic acid action on, 311.  
 —, cellulose ether dye, 2147, 2298.  
 —, dyeing with, 2162.  
 —, ester of, 311.  
 Hemicellulose, 1115, 1168, 1181, 1456.  
 —, oxidizing, 1245.  
 Hemimellithene, 1806.  
 Hemp, acetylating, 1060.  
 —, benzylating, 293.  
 —, *a*-cellulose from, 1050.  
 —, diffraction patterns of, 1121.  
 —, etherification of, 12, 1415.  
 —, ethylating, 293.  
 —, gut, substitute, made of cellulose acetate impregnated, 638.  
 —, instrument strings made of cellulose acetate impregnated, 638.  
 —, methylating, 293.  
 —, racket strings made of cellulose acetate impregnated, 638.  
 Hemp fiber, sponge, artificial, made using, 2536.  
 Hendeca-acetates, mfr., 700.  
 Hendecamethylcellostriose, 1510, 2622.  
 Hendecamethyl-melezitose, 1506.  
 Hendecamethylraffinose, 1502.  
 Hendecamethyltriose, 2622.  
*Hendecatoic acid, see Undecylic acid.*  
 Hemioglobin, amines solvent for, 2011.  
*Hepta (say) acetylglucose, see also Acetylglucose (hepta).*  
 Heptabromnaphthalene, 1826.  
 Heptachlornaphthalene, 1826.  
 Heptachlorpropane, 1820, 1998.  
 —, cellulose ester plasticizer, 251, 973.  
 —, cellulose ether plasticizer, 251.  
 —, cellulose ether solvent, 115.  
 —, lacquer containing, 2414.  
*Heptadecoic acid, see Margaric acid.*  
 Heptafluornaphthalene, 1826.  
 Heptaldehyde, 1865, 1867.  
 —, celluloid solvent, 890.  
 —, cellulose acetate solvent, 890, 1785.  
 —, *see also Oenanthol.*  
*Heptalin, see Methyl cyclohexanol.*  
 Heptalin acetate, 1912.  
 —, properties, 573.

- Heptalin formate, 1912.  
—, properties, 573.  
Heptamethylbenzylcellobioside, mfr. of, 230.  
Heptamethylcellobiose, 1131, 1510.  
Heptamethylcellobiose 1-chlorhydrin, 1131.  
Heptamethylcellulose, 1306.  
Heptamethyl-4-*b*-galactosido-*a*-methylmannoside, hydrolysis of, 279.  
Heptamethyl-4-*b*-glucosido-*a*-methylmannoside, 1503.  
—, hydrolysis of, 279.  
Heptamethyl-methylcellobioside, 75, 1127, 1508.  
Heptamethyl-*b*-methylcellobioside, 1323, 1324, 1510.  
—, mfr. of, 230, 232.  
Heptamethyl-methylcelloside, 80, 1126.  
Heptamethyl-*b*-methylcelloside, 1126.  
Heptamethyl-*b*-methylcellotrioside, 279.  
Heptamethyl-1-*b*-methyl-6-*a*-glucosidoglucose, 1501.  
Heptamethylmethyl-lactoside, 1508.  
—, mfr. of, 79.  
Heptamethylmethylmaltoside, 1510.  
—, specific rotation of, 42.  
Heptamethyl-*b*-methylmaltoside, mfr. of, 230.  
Heptamethyl starch, 1477.  
Heptamethylsucrose, 1507, 1510.  
—, mfr. of, 42.  
*Heptanal*, see *Oenanthal*.  
Heptane, cellulose ether dyeing using, 2237.  
—, cellulose ether solvent, 2227.  
—, ethylcellulose lacquer containing, 2411.  
—, flash point, 2061.  
—, solubilizing agent, 2213, 2219.  
*n*-Peptane, b. p. methyl alcohol with, 1831.  
—, formic acid concentrated using, 1009.  
*Heptene*, see *Heptylene*.  
*Heptoic acid*, see *Oeanthic acid*.  
*n*-Heptyl acetate, cellulose acetate solvent, 813.  
*Heptyl acid*, see *Oeanthylic acid*.  
*Heptyl aldehyde*, see *Oeanthal*.  
Heptylene, ethylcellulose lacquer containing, 2411.  
Heptylene, cellulose acetate precipitant, 811.  
—, cellulose nitrate precipitant, 811.  
*Heptyl ether*, see *Ethyl heptylate*.  
Heteromethylglucoside, 1128.  
Hexa-acetyl-biosane, 893, 1129, 1322.  
—, X-ray diagram of, 149.  
Hexa-aminodianthraquinonyl thioether, cellulose acetate dyed using, 712.  
—, cellulose ether dyed using, 2297.  
Hexa-amybenzene, lacquer containing, 2393.  
Hexa-amylose, molecular weight of, 1493.  
*ab*-Hexa-amylose, 1153.  
Hexabromnaphthalene, 1826.  
Hexabromxylene, 1826.  
Hexabutylbenzene, lacquer containing, 2393.  
Hexachlorbenzene, 1898.  
—, benzylcellulose plastifier, 126.  
—, ethylcellulose plastifier, 126.  
Hexachlorethane, 294, 375, 438, 1815, 1819, 1820, 1898.  
—, benzylcellulose plastifier, 126.  
—, benzylcellulose treated with, 1563.  
—, cellulose acetate lacquer containing, 394.  
—, cellulose ether softener, 2133.  
—, ethylcellulose plastifier, 126.  
—, film made using, 2524.  
—, lacquer containing, 2414.  
—, mfr., 925.  
—, see also *Carbon trichloride*.  
Hexachlornaphthalene, 1826, 1944.  
—, benzylcellulose solvent, 224.  
—, *p*-chlorbenzylcellulose solvent, 224.  
—, phenylethylcellulose solvent, 224.  
—, stencil sheet mfr. using, 628, 1569, 2494.  
Hexachlorpropane, 1820.  
—, cellulose ester plasticizer, 251.  
—, cellulose ether plasticizer, 251.  
—, cellulose ether solvent, 115.  
—, lacquer containing, 2414.  
Hexachlortoluene, 1826.  
Hexadecanaphthene, cellulose ether solvent, 2227.  
Hexadecane, cellulose ester coagulated by, 133.



- Hexadecane, cellulose ether coagulated by, 133, 2085, 2097.  
—, cellulose ether spinning bath containing, 2083.  
—, filament cleaned by, 257.  
—, film cleaned by, 257.  
—, ribbon cleaned by, 257.  
—, thread cleaned by, 257.  
Hexadecyl acetate, 1929.  
*Hexadecyl (normal primary) alcohol*, see *Cetyl alcohol*.  
Hexaethylbenzene, 1810.  
—, amines solvent for, 2011.  
—, lacquer containing, 2393.  
Hexaethylbutylbenzene, cellulose ester plasticizer, 303.  
—, cellulose ether plasticizer, 303.  
Hexaethylcellulose, alkyl content, 1304.  
Hexaethyl disilicate, 1909.  
Hexaethylpentylbenzene, cellulose ester plasticizer, 303.  
—, cellulose ether plasticizer, 303.  
Hexaethylpropylbenzene, cellulose ester plasticizer, 303.  
—, cellulose ether plasticizer, 303.  
Hexafluorobenzene, 1826.  
Hexafluorobenzothalene, 1826.  
Hexahydroaniline, 2223.  
—, cellulose acetate dyed using, 1025.  
—, cellulose ether dyed in presence of, 155.  
—, cellulose ester dyed with, 195, 197.  
—, cellulose ether dyed with, 195, 197.  
Hexahydrobenzene, 1979.  
—, cellulose ether solvent, 106.  
—, flash point, 2060.  
—, see also *Cyclohexane*.  
Hexahydrobenzoic ester, 1965.  
Hexahydrobenzyl ketone, 1888, 1983.  
Hexahydrocresol, 1990.  
—, acetic acid recovered using, 581.  
—, cellulose ether solvent, 2227.  
—, solubilizing agent, 2219.  
Hexahydro-*o*-cresol, 1859.  
Hexahydrocumene, 1828, 2055.  
Hexahydrocymene, 1828, 2055.  
Hexahydroethylaniline, 2222.  
—, cellulose acetate dyed using, 1025.  
—, cellulose ester dyed with, 195.  
—, cellulose ether dyed in presence of, 155, 195.  
Hexahydroethylaniline, cellulose ether softener, 2220.  
Hexahydroethyl-*o*-toluidine, cellulose ether dyed in presence of, 155.  
Hexahydromethylaniline, 2222.  
—, cellulose acetate dyed using, 1025.  
—, cellulose ester dyed with, 195.  
—, cellulose ether dyed in presence of, 155, 195.  
—, cellulose ether softener, 2220.  
Hexahydronaphthalenediamines, cellulose acetate dyed using, 1025.  
Hexahydro-1,7-naphthylenediamine, cellulose ester dyed with, 195.  
—, cellulose ether dyed with, 195.  
Hexahydrophenol, 1811, 1859, 1906, 1944.  
—, cellulose acetate plasticizer, 408.  
—, cellulose ether dyeing using, 2238.  
—, cellulose ether solvent, 106, 2227.  
—, cellulose nitrate plasticizer, 408.  
—, solubilizing agent, 2219.  
—, see also *Cyclohexanol*.  
Hexahydropolystyrene, 1810.  
*Hexahydropyrazine*, see *Piperazine*.  
Hexahydropyridine, 2033.  
—, see also *Piperidine*.  
*Hexahydrothymol*, see *Menthol*.  
Hexahydrotoluene, 1828, 2055.  
—, flash point, 2061.  
Hexahydrotoluidines, 2223.  
—, cellulose acetate dyed using, 1025.  
—, cellulose ester dyed with, 195.  
—, cellulose ether dyed in presence of, 155, 195.  
Hexahydro-*m*-toluidine, 2223.  
—, cellulose ether softener, 2220.  
Hexahydro-*o*-toluidine, 2223.  
—, cellulose ether softener, 2220.  
Hexahydroxyanthraquinone, cellulose acetate dyed using, 684.  
—, cellulose ether dyeing using, 2238.  
Hexahydroxylene, 1828, 2055.  
—, flash point, 2061.  
Hexahydro-xylinides, cellulose acetate dyed using, 1025.  
—, cellulose ester dyed with, 195.

- Hexahydro-xylydines, cellulose ether dyed with, 156, 195.  
Hexahydro-*m*-xylydine, 2223.  
—, cellulose ether softener, 2220.  
Hexa-hydroxystearic acid, pentaerythrite condensate of, 303.  
Hexalene, dichlorethylene stabilized by, 1066.  
—, trichlorethylene stabilized by, 1066.  
—, cellulose acetate lacquer containing, 519.  
—, cellulose acetate solvent, 539.  
—, rubber solvent, 539.  
—, *see also* *Cyclohexanol*; *Hexahydronaphthalin*.  
Hexalin acetate, 1912, 1988.  
—, cellulose nitrate solvent, 267.  
—, properties, 573.  
—, wetting agent, 2207.  
—, *see also* *Cyclohexanyl acetate*.  
Hexalin formate, 1912.  
—, properties, 573.  
Hexamethylbiosan, 116, 893, 1322, 1510.  
—, X-ray diagram of, 149.  
Hexamethyl cellulose, alkyl content, 1304.  
Hexamethyldipentose, 1499.  
Hexamethylene, 1979.  
—, *see also* *Cyclohexane*.  
*Hexamethyleneamine*, *see* *Hexamethylenetetramine*.  
Hexamethylenetetramine, 2028.  
—, amines solvent for, 2011.  
—, cellulose ether with, 151.  
—, cellulose ether film strengthened by, 1379.  
—, ethylcellulose strengthened by, 1379.  
—, film made using, 2522.  
—, gelatin hardened by, 664.  
—, resorcinol condensate of, 40.  
*Hexamethylenetetramine bromethylate*, *see* *Bromalin*.  
Hexamethylglycerol, glucoside, 1497.  
Hexamethylmannitol, 1504, 1505.  
Hexamethyl-methylcellobioside, 75, 1127.  
Hexamethyl-methylcelloside, 80, 1111, 1126.  
Hexamethylmethylglucoarabino-  
side, 1500.  
Hexamethylmethylmaltoside, 1499.  
Hexamethyl starch, 1477.  
Hexamethyltetramine, cellulose acetate stabilizer, 353.  
—, cellulose nitrate stabilizer, 353.  
Hexamethyl violet base, film colored by, 2519.  
*Hexanaphthene*, *see* *Cyclo-hexane*.  
Hexane, 1782.  
—, cellulose ether solvent, 106.  
—, esters mfr. in presence of, 580.  
—, ethylcellulose lacquer containing, 2411.  
—, flash point, 2061.  
*n*-Hexane, 1799, 1800.  
—, b. pt. methyl alcohol with, 1831.  
—, celluloid solvent, 890.  
—, cellulose acetate solvent, 890.  
Hexane-alcohol, ethylcellulose xanthanilid solvent, 1644.  
*Hexanitromannite*, *see* *Nitromannite (Hexa)*.  
Hexanol acetate, 1928.  
*Hexanone*, *see* *Cyclohexanone*.  
Hexanone acetate, cellulose acetate lacquer containing, 402.  
*Hexa-oxy-anthraquinone*, *see* *Ruffigallic acid*.  
Hexapropylbenzene, lacquer containing, 2393.  
Hexapropyl cellulose, alkyl content, 1304.  
*Hexoic acid*, *see* *Caproic acid*.  
*n*-Hexoic acid, celluloid solvent, 890.  
—, cellulose acetate solvent, 890.  
*Hexoic acid nitrile*, *see* *Amyl cyanide*.  
Hexol, cellulose ether plastifier, 146, 1371.  
*b-Hexone alcohol*, *see* *Dulcit*.  
Hexosan, 657.  
—, precipitating, 1245.  
Hexose, allylated, 1636.  
—, methylated, 31.  
Hexose anhydride, 1157.  
Hexyl abietate, mfr., 884.  
Hexyl acetate, 1928.  
—, acetic acid recovery using, 724.  
—, cellulose ether solvent, 53.  
*sec*-Hexyl acetate, 1846.  
*cyclo*Hexyl-amyl phthalate, cellulose acetate solvent, 898.  
*cyclo*Hexyl-benzyl phthalate, cellulose acetate softener, 898.  
*cyclo*-Hexyl-*n*-butyl phthalate, cellulose acetate softener, 898.  
Hexylene, cellulose acetate plastic, 458.

- Hexylene, chlorhydrins made using, 503.  
 —, ethylcellulose lacquer containing, 2411.  
 Hexylenediacetate, 1821.  
*Hexyleneglycol*, see *Pinacone*.  
 Hexyl esters, 1934.  
 Hexyl hydride, 2055.  
*Hexylic acid*, see *Caproic acid*.  
*Hexyl ketol*, see *Ketone mixture*.  
 Hexyl nitrolactate, 1946.  
*cyclo*Hexyl-isopropyl phthalate, cellulose acetate softener, 898.  
*cyclo*Hexyl-phenyl phthalate, cellulose acetate softener, 898.  
 Hexyl phthalate, acetic acid recovery using, 724.  
*cyclo*Hexyl phthalate, cellulose acetate softener, 898.  
*cyclo*Hexyl-xylyl phthalate, cellulose acetate softener, 898.  
 HF, cellulose pretreated with, 741.  
 Hide, methylcellulose in treating of, 249.  
 —, tanning, 2456.  
 Highfield rules, 870.  
 Hippuric acid, amines solvent for, 2011.  
 Holder, cigarette, cellulose acetate in mfr., 671.  
 —, film, slide for cellulose acetate, 941.  
 Hollow bodies, cellulose acetate mfr., 433.  
*Hollow filament*, see *Filament*, artificial, hollow.  
 Homogenizer, methylcellulose for, 1347.  
 Homogenizing, cellulose acetate for, 1013.  
*Homopyrocatecholmonomethyl ether*, see *Cresol*.  
*Homotoluyllic acid*, see *Hydrocinamic acid*.  
*Honey sugar*, see *Dextrose*.  
 Hood, carriage, 2555.  
 Horn, artificial, benzylcellulose for, 1579.  
 —, —, casein for, 1579.  
 —, —, mfr., 297, 1022, 2566, 2606, 2608.  
 —, —, benzylcellulose in, 297.  
 —, —, ethylcellulose in, 297.  
 —, mfr. of, cellulose ether in, 2580.  
 —, substitute for, cellulose acetate for, 346.  
 —, —, cellulose ether for mfr., 192.  
 Horn, wool, artificial, made using, 467.  
 Horsehair, artificial, mfr., 177, 353, 2076, 2108, 2117, 2162, 2376.  
 —, —, —, cellulose acetate for, 747.  
 —, —, —, cellulose ester in, 270.  
 —, —, —, cellulose ether in, 270.  
 —, cellulose acetate, 487.  
 —, filaments from, mfr., 1000.  
 Hose, knit, circular mfr. of, 2383.  
 —, —, mfr. of, 2383.  
 Hosiery, cellulose ether, 104.  
 —, dyeing, 536.  
 —, mfr. of, cellulose ether in, 2382.  
 —, seamless, mfr. of, 2383.  
 Hotbed, glass in, cellulose acetate as substitute for, 625.  
 Hothouses, glass in, cellulose acetate as substitute for, 625.  
 Hot water, cellulose acetate relusted by, 608.  
 Hulls, cottonseed, acetating, 359.  
 —, —, see also *Cottonseed hull*.  
 Hycoloid, 2567.  
*Hydantoin*, see *Glycol urea*.  
 Hydracellulose, etherification of, 12.  
*Hydracetin*, see *Acetylphenylhydrazine*.  
 Hydracrylic acid, 1692.  
 Hydracrylic anhydride, 187, 1724.  
 Hydralcellulose, 366.  
 Hydraldite Z, 2319.  
*Hydrargyrum*, see *Mercury*.  
*Hydrate cellulose*, see *Cellulose hydrate*.  
*Hydrated cellulose*, see *Celluloses*, hydrated.  
*Hydrated methyloxid*, see *Methylalcohol*.  
*Hydrated (tri) valeric acid*, see *isoValerianic acid*, hydrated.  
 Hydrazine, 1684, 1749, 1753, 1757.  
 —, catalyst in wood pulp acetation, 542.  
 —, cellulose ester dyed using, 280.  
 —, cellulose ether dyed using, 280, 2283.  
 —, hydrolyzing, cellulose acetate with, 421.  
 Hydrazinecellulose, 1749.  
 Hydrazine hydrate, gold precipitated by, 2448.  
 Hydrazine sulfate, amines solvent for, 2011.  
 —, catalyst in cellulose acetate mfr., 414.

- Hydric (tri)valeric acid, see iso-Valeric acid, hydrated.*  
 Hydriodic acid, 26.  
 —, acetic acid purified by, 564.  
 —, catalyst in cellulose acetating, 440.  
 —, catalyst in starch esterification, 1491.  
 —, cellulose acetate etherified in presence of, 1434.  
 —, cellulose benzoate etherified in presence of, 1434.  
 —, cellulose butyrate etherified in presence of, 1434.  
 —, cellulose formate etherified in presence of, 1434.  
 —, cellulose propionate etherified in presence of, 1434.  
*Hydriodic ether, see Ethyl iodide.*  
 Hydroaestivale, anthracene-sulfonic acid in treatment of, 2450.  
 —, naphthol-sulfonic acid in treatment of, 2450.  
 Hydroaromatic benzene, ethyl-butylcellulose and for lacquer mfr., 2426.  
 —, methylbutylcellulose and for lacquer mfr., 2425.  
*iso-Hydrobenzamide, see Amerine.*  
 1,4-Hydrobenzene, cellulose ether dyeing using, 2238.  
 —, cellulose ether solvent, 2227.  
 —, solubilizing agent, 2219.  
 Hydrobromic acid, benzylcellulose viscosity reduced by, 1560.  
 —, catalyst in cellulose acetating, 440.  
 —, catalyst in cellulose acetate mfr., 1031.  
 —, cellulose acetate made using, 771, 773.  
 —, cellulose pretreated with, 773, 866.  
*Hydrobromic ether, see Ethyl bromide.*  
 Hydrocarbons, aliphatic, cellulose acetate solvent, 1799.  
 —, —, cellulose ether solvent, 1799.  
 —, —, cellulose nitrate solvent, 1799.  
 —, aromatic, solvent, 1801.  
 —, delustring with, 2181.  
 Hydrocellulose, 316, 326, 1138, 1143, 1678.  
 —, acetating, 332, 333, 334, 352, 417, 763, 1059.  
 —, acid cellulose from, 87.  
 Hydrocellulose, benzylolation of, 1515.  
 —, caramellizing, 1134.  
 —, chlorinated, acetylating, 698.  
 —, ethylating, 46.  
 —, fluorescent power of, 558.  
 —, Girard's alkali absorbed by, 1144.  
 —, hydrazones from, 1114.  
 —, mfr., 332, 1050, 1146, 1515.  
 —, methylation of, 75, 77, 1307, 1308, 1316.  
 —, methylcellulose from, 77.  
 —, Roentgen-spectrograph of, 71.  
 —, tests for, 1142.  
 —, X-ray diagram of, 1371.  
 —, *see also Cellulose.*  
 Hydrocellulose I, methylcellulose from, 1319.  
 Hydrocellulose II, methylcellulose from, 1319.  
 Hydrocellulose III, methylcellulose from, 1319.  
 Hydrocellulose acetate, binding medium of, 432.  
 —, fibrous, mfr., 363.  
 —, mfr., 336, 337, 639.  
 —, nitrating, 353.  
 —, properties, 332.  
 Hydrocellulose acetate, properties, 353.  
 Hydrocellulose benzoate, mfr., 553.  
 Hydrocellulose dilaurate, 153.  
 Hydrocellulose dipalmitate, 153, 1710.  
 Hydrocellulose distearate, 153.  
 Hydrocellulose formate, mfr., 728.  
 Hydrocellulose monoformate, mfr., 728.  
 Hydrocellulose laurate, gasolene absorbed by, 990.  
 Hydrocellulose linoleate, mfr., 533.  
 Hydrocellulose oleate, gasolene absorbed by, 990.  
 Hydrocellulose palmitate, gasolene absorbed by, 990.  
 Hydrocellulose sebacate, 1700.  
 Hydrocellulose stearate, gasolene absorbed by, 990.  
 Hydrocellulose trilaurate, 1710.  
 Hydrocellulose triundecylenate, mfr., 538.  
 —, properties, 538.  
 Hydrocellulose undecylenate, properties, 538.  
 —, mfr., 538.

- Hydrochinone, bromine derivatives, fire-retardant, 1374.  
—, bromo, cellulose ether inflammability reduced by, 182.  
—, flash point, 2061.  
—, *see also Hydroquinone*.  
Hydrochloric acid, acetic anhydride mfr., using, 626.  
—, alkylcellulose viscosity reduced by, 1362.  
—, benzylcellulose viscosity reduced by, 1558, 1560.  
—, carbonizing with, 767, 2203.  
—, catalyst in cellulose acetate mfr., 670, 846.  
—, catalyst in cellulose acetating, 353, 440.  
—, catalyst in cellulose formate mfr., 641, 904.  
—, cellulose acetate made using, 771, 773.  
—, cellulose acetate clarified using, 882.  
—, cellulose acetate delustred by, 722, 1013.  
—, cellulose acetate hydrated by, 355, 925.  
—, cellulose acetate mfr. using as catalyst, 642.  
—, cellulose acetate ripened by, 597.  
—, cellulose acetate treated with, 2315.  
—, cellulose aceto-formate mfr. using as catalyst, 642.  
—, cellulose ester dyed black using, 267.  
—, cellulose ester reduced in viscosity by, 201.  
—, cellulose ether dehydrated using, 2337.  
—, cellulose ether depolymerized by, 118.  
—, cellulose ether dyed black using, 267.  
—, cellulose ether purified by, 182, 1461, 1462.  
—, cellulose ether reduced in viscosity by, 102.  
—, cellulose ether softener, 2350.  
—, cellulose ether strengthened by, 2131, 2134.  
—, cellulose ether swelling agent, 254.  
—, cellulose ether viscosity reduced by, 162, 300, 1361.  
Hydrochloric acid, cellulose formate mfr. using as catalyst, 642.  
—, cellulose oxidized by, 366.  
—, cellulose pretreated with, 644, 683, 773, 866.  
—, cellulose pretreatment with, 1406.  
—, cellulose propionate mfr. using as catalyst, 642.  
—, cotton carbonized with, 951.  
—, cotton dyed black using, 267.  
—, crene effect produced by, 935.  
—, delustring with, 2192.  
—, etherifying in presence of, 23.  
—, ethylcellulose depolymerized by, 246.  
—, ethylcellulose solubilized by, 246.  
—, ethylcellulose viscosity reduced by, 300, 1352.  
—, lacquer, black, made using, 2414.  
—, linen carbonized with, 951.  
—, mercerizing by, 505.  
—, methylcellulose viscosity reduced by, 1352.  
—, soluble starch made using, 363.  
—, viscose treated with, 2315.  
*Hydrocinnamylic acid, see Hydrocinnamic acid*.  
Hydrocyanic acid, 1745.  
*Hydrocyanic ether, see Ethyl cyanide*.  
*Hydro-extractors, see Centrifugals*.  
*Hydroferrirocyanic acid, see Ferrihydrocyanic acid*.  
*Hydroferrocyanic acid, see Ferrohydrocyanic acid*.  
Hydrofluoric acid, catalyst in cellulose acetate mfr., 822, 846, 1031.  
—, cellulose acetate ripened by, 597.  
—, cellulose ether solubility increased by, 172, 1349.  
—, cellulose pretreatment with, 1406.  
—, cellulose treated with, 800.  
—, ethylcellulose solubility increased by, 1349.  
—, glass, laminated, made using, 2588.  
—, —, sheets, joined using, 836.  
—, mfr., 535, 793.  
—, methylcellulose solubility increased by, 1349.  
—, starch acted on by, 1154.  
Hydrogen, acetic acid purified by, 564.

- Hydrogen, alkalicellulose aged in, 1209.
- , cottonseed oil treated with, 984.
  - , linseed oil treated with, 984.
  - , soya bean oil treated with, 984.
  - , tung oil treated with, 984.
- Hydrogenated naphthalenes, cellulose acetate protected by, in mercerizing, 616.
- Hydrogen bromide, cellulose acetate acetolyzed using, 691.
- , cellulose acetolyzed using, 691.
  - , *see also Hydrobromic acid.*
- Hydrogen chloride, *see Hydrochloric acid.*
- Hydrogen cyanide, *see Hydrocyanic acid.*
- Hydrogen dioxide, cellulose acetate viscosity reduced by, 602.
- , cellulose acetylated in presence of, 978.
  - , cellulose ester viscosity reduced by, 1359.
  - , cellulose pretreated with, 901.
  - , cellulose purified by, 1411.
  - , cellulose treated with, 1138.
  - , mercury sludge oxidized by, 460.
- Hydrogen fluoride, *see Hydrofluoric acid.*
- Hydrogen iodide, *see Hydriodic acid.*
- Hydrogen peroxide, cellulose acetate discharge effects produced by, 745.
- , discharge effect on, cellulose ether produced using, 175.
  - , *see also Hydrogen dioxide.*
- Hydrogen sulfide, acetic acid purified by, 564.
- , cottonseed oil treated with, 984.
  - , linseed oil treated with, 984.
  - , soya bean oil treated with, 984.
  - , tung oil treated with, 984.
- Hydroiodic acid, catalyst in cellulose acetate mfr., 1031.
- , cellulose acetate made using, 771, 773.
  - , cellulose pretreated with, 773, 866.
- Hydriodic ether, *see Ethyl iodide.*
- Hydromellonic acid, *see Mellonic acid.*
- Hydonaphthols, cellulose acetate plasticizer, 860.
- 2,3-Hydonaphthoyl-2-amino-3-naphthol ether, cellulose dyed with, 196.
- , dyeing with, 196.
- Hydonaphthyl ketone, 1888, 1983.
- Hydon Blue G, cellulose acetate dyed using, 723.
- , cotton dyed using, 723.
- Hydon Pink FF, 2193.
- Hydon Yellow 2G, cellulose acetate dyed using, 723.
- , cotton dyed using, 723.
- Hydro-oxynaphthoic arylide, cellulose ether dyed using, 181.
- Hydropalat CY, 1023, 1041.
- , plasticizing value, 1794.
- Hydroquinone, 1926, 1996, 2318.
- , amines solvent for, 2011.
  - , cellulose acetate absorption, 601.
  - , cellulose acetate acetylated in presence of, 1055.
  - , cellulose acetate dyed using, 751.
  - , cellulose acetate emulsion containing, 128.
  - , cellulose acetate textile printed using, 961.
  - , cellulose ester film coated using, 248.
  - , cellulose ether dyeing assistant, 2222.
  - , cellulose ether emulsion containing, 128.
  - , cellulose ether film coated using, 248.
  - , cellulose ether softener, 2153, 2156, 2183.
  - , cellulose ether swelling agent, 2221.
  - , delustring with, 2187.
  - , delustring prevented by, 197.
  - , dichlorethylene stabilized by, 1066.
  - , film made using, 2510.
  - , luster preserving by, 2171.
  - , plastic made using, 2581.
  - , trichlorethylene stabilized by, 1066.
  - , *see also Quinol.*
- Hydroquinone acetate, 1927.
- Hydroquinone diacetate, 1927.
- , cellulose acetate plasticizer, 375.
- Hydroquinone monoacetate, 1927.
- Hydrosulfite, 2241, 2242.
- Hydrosulfite powder, 2226, 2227.
- Hydrosulfuric ether, *see Ethyl mercaptan.*
- Hydrotoluene, ethylcellulose purified by, 269.
- Hydrotoluquinone, cellulose acetate dyed using, 751.

*Hydrous wool fat, see Lanolin.*

5-Hydroxyacenaphthene, 2633, 2634.

Hydroxyacetal, 1873.

Hydroxyacetic acid, 2629.

—, *see also Glycollic acid.*

Hydroxyaliphatic acid, 1692.

*mono*-Hydroxyaliphatic alcohol, film containing, mfr., 443.

Hydroxyalkoxyamines, 1386.

1-Hydroxy-3-alkoxybutanes, solvent, 1801.

Hydroxyalkylamine, 1389.

Hydroxyalkylaminocellulose, 1398.

Hydroxyalkylated-*a*-naphthylamine, cellulose acetate dyed using, 937.

Hydroxyalkyl carbohydrate, cellulose ester size, 286.

Hydroxyalkylcellulose, 1338, 1380, 1390, 1398, 1614, 1657, 1768, 2625.

—, etherification, 1399.

—, mfr. of, 89, 197, 1383, 1384.

—, solubility of, 1383.

—, uses of, 169.

—, *see also Oxyalkylcellulose.*

*mono*-Hydroxyalkylcellulose, acetylating, 283.

Hydroxyalkylcellulose acetate, mfr., 289.

Hydroxyalkylcellulose esters, 2624.

Hydroxyalkylcellulose ether, sizing of, 263.

Hydroxyalkylether, cellulose ester sized by, 282.

—, sizing with, 282.

Hydroxyalkyl-*a*-naphthylamines, cellulose ether dyed using, 2253.

Hydroxyaliphylcellulose, 1391.

1-Hydroxy-4-aminoanthraquinone, cellulose ether dyed using, 2248.

*o*-Hydroxyaminoanthraquinonesulfonic acid, 1088.

1-Hydroxy-3-amino-2,4-dimethylbenzene, cellulose ester dyed using, 245.

—, cellulose ether dyed using, 245.

4-Hydroxy-4'-amino-5'-methylphenylamine, cellulose ether dyed using, 2301.

*y*-Hydroxyanthracene, *see Anthranol.*

*a*-Hydroxyanthranol, 2634.

Hydroxyanthraquinone, arylaminoanthraquinone made from, 297.

—, cellulose acetate dyed using, 712, 825.

Hydroxyanthraquinone, cellulose ether dyed using, 2248, 2255.

*a*-Hydroxyanthraquinone, cellulose acetate dyed using, 712.

—, cellulose ether dyed using, 2281.

*bis* (Hydroxyaryl) ethane, solvent, 1801.

*o*-Hydroxyazo dye, chromium compound of, cellulose ester dyed with, 285.

—, —, cellulose ether dyed with, 285.

—, copper compound of, cellulose ester dyed with, 285.

—, —, cellulose ether dyed with, 285.

—, dye for lacquer, 2397.

*Hydroxybenzene, see Phenol.*

Hydroxy-4-benzeneazobenzoic acid, methyl sulfate in mfr. of, 1264.

Hydrobenzenesulfonic acid, 1686.

Hydroxybenzoic acid, 1655.

*p*-Hydroxybenzoic acid, cellulose acetate dyed, 547.

*Hydroxybenzoic (tri) acid, see Gallic acid.*

Hydroxybenzyl alcohol, 297, 1583.

—, cellulose acetate plastifier, 454.

—, emulsion containing, 2457.

—, glass, laminated, made using, 2589.

—, lacquer mfr. using, 2394.

*o*-Hydroxybenzyl alcohol, cellulose acetate plastifier, 525.

*p*-Hydroxybenzyl alcohol, cellulose acetate plastifier, 525.

Hydroxybenzyl phosphate, 1897.

—, cellulose acetate plastifier, 581.

Hydroxybutylcellulose, 1390, 1659, 2625.

—, mfr., 2641.

Hydroxybutylcellulose acetate, 2625, 2641.

Hydroxybutylcellulose butyrate, mfr., 2641.

Hydroxybutylcellulose cocinate, 1659.

Hydroxybutylcellulose laurate, mfr., 2641.

Hydroxybutylcellulose oleate, mfr., 2641.

Hydroxybutylcellulose palmitate, mfr., 2641.

Hydroxybutylcellulose propionate, mfr., 2641.

Hydroxybutylcellulose stearate, mfr., 2641.

- Hydroxybutyl laurate, 2625.  
*Hydroxybutyloxyethyl ether*, see *Diethyleneglycol mono-n-butyl ether*.  
 Hydroxybutyl palmitate, 2625.  
 Hydroxybutyl stearate, 2625.  
*b*-Hydroxybutyraldehyde, 1865.  
 2-Hydroxycarbazole, 1085.  
 2-Hydroxycarbazole-3-carboxylic acid, 1085.  
 Hydroxycarboxylic acid, delustring by, 283.  
 1-Hydroxy-4-chloranthraquinone, cellulose ether dyed using, 2281.  
*Hydroxycinnamic acid*, see *Coumaric acid*.  
*o*-Hydroxycinnamic lactone, 2048.  
 Hydroxydi-arylmethane, mildew-proofing using, 2202.  
 Hydroxydiazo-compounds, nitrated, cellulose ether dyed using, 2280.  
 5-Hydroxy-1,4-di-(*b*-hydroxyethylamino)anthraquinone, cellulose acetate dyed using, 676.  
 —, cellulose ether dyed using, 2263.  
 Hydroxydimethoxybutyric acid, 1497.  
 5-Hydroxy-2,2'-dinaphthylamine-7-sulfonic acid, cellulose acetate dyed using, 845.  
 2'-Hydroxy-2,4-dinitrodiphenylamine, cellulose acetate dyed with, 542.  
 4'-Hydroxy-2,4-dinitrodiphenylamine, cellulose acetate dyed with, 543.  
*m*-Hydroxydiphenylamine, 2633, 2634.  
 4'-Hydroxydiphenylazo-H-acid, 1087.  
 2-*b*-Hydroxyethoxyaniline, cellulose acetate dyed using, 674.  
 —, cellulose ether dyed using, 2277.  
 4-*b*-Hydroxyethoxyaniline, cellulose acetate dyed using, 674.  
 —, cellulose ether dyed using, 2277.  
 1-*b*-Hydroxyethoxy-4-diazobenzene, cellulose acetate dyed using, 722.  
*Hydroxyethoxydiethyl ether*, see *Diethyleneglycol monoethyl ether*.  
 Hydroxyethoxydiethyl ether acetate, 1855.  
 Hydroxyethoxydiethyl ether phthalate, 1855.  
 Hydroxyethoxydiethyl ether salicylate, 1855.  
*b*-Hydroxy-*b*'-ethoxydiethyl stearate, 1940.  
*b*-Hydroxy-*b*-ethoxyethyl ether, 1847.  
*b*-Hydroxyethoxy-*n*-propylbutyl mannitol, 1974.  
*b*-Hydroxyethoxy-*n*-propylbutyl phthalate, 1974.  
*b*-Hydroxy-*w*-ethoxy-*n*-propylbutyl phthalate, mfr. of, 203.  
*b*-Hydroxyethoxy-*n*-propylbutyl sorbitol, 1974.  
 Hydroxyethylamine, 254.  
 —, cellulose ether dyed using, 2265, 2278.  
 —, cellulose ether printing on using, 244.  
*b*-Hydroxyethylamine, cellulose acetate dyed using, 1011.  
 —, cellulose ether dyed using, 2250.  
 1-*b*-Hydroxyethylaminoanthraquinone, cellulose acetate dyed using, 676.  
 —, cellulose ether dyed using, 144, 2246.  
 1-*b*-Hydroxyethylaminoanthraquinone sulfate, benzylcellulose dyed using, 169, 1586.  
 —, ethylcellulose dyed by use of, 169.  
 —, methylcellulose dyed by use of, 169.  
 1-*b*-Hydroxyethylaminoanthraquinone sulfuric ester, cellulose ether dyed using, 2266.  
 1-*b*-Hydroxyethylamino-4-aminoanthraquinone sulfate, benzylcellulose dyed by use of, 169.  
 —, ethylcellulose dyed by use of, 169.  
 —, methylcellulose dyed by use of, 169.  
 1-*b*-Hydroxyethylamino-2-brom-4-aminoanthraquinone sulfate, benzylcellulose dyed by use of, 169.  
 —, ethylcellulose dyed by use of, 169.  
 —, methylcellulose dyed by use of, 169.  
 Hydroxyethylaminocellulose, 1398.  
 1-*b*-Hydroxyethylamino-4-hydroxyanthraquinone sulfate, benzylcellulose dyed by use of, 169.  
 —, ethylcellulose dyed by use of, 169.



- 1-*b*-Hydroxyethylamino-4-hydroxy-anthraquinone sulfate, methylcellulose dyed by use of, 169.
- 1-*b*-Hydroxyethylamino-4-methylaminoanthraquinone sulfate, benzylcellulose dyed by use of, 169.
- , ethylcellulose dyed by use of, 169.
- , methylcellulose dyed by use of, 169.
- 1-*b*-Hydroxyethylamino-2-methylanthraquinone sulfate, benzylcellulose dyed by use of, 169.
- , ethylcellulose dyed by use of, 169.
- , methylcellulose dyed by use of, 169.
- Hydroxyethylbutylcellulose, 2625.
- Hydroxyethylcellulose, 1339, 1393, 1395, 1657, 1659, 1660, 2624.
- , filament from, 205.
- , film from, 205.
- , mfr., 2641, 2642.
- , uses of, 169.
- , *see also* *Oxyethylcellulose*.
- b*-Hydroxyethylcellulose, 2624.
- Hydroxyethylcellulose acetate, 1656, 1658, 1659.
- , mfr., 1614, 2641, 2642.
- , plastic using, 1670, 2579.
- b*-Hydroxyethylcellulose acetate, 2624.
- Hydroxyethylcellulose acetobutyrate, 1656.
- , mfr. of, 284.
- Hydroxyethylcellulose benzoate, 1395.
- Hydroxyethylcellulose butyrate, mfr., 2641.
- Hydroxyethylcellulose fumarate, 1657.
- Hydroxyethylcellulose glutarate, 1657.
- Hydroxyethylcellulose laurate, mfr., 2641.
- Hydroxyethylcellulose malate, 1657.
- Hydroxyethylcellulose malonate, 1657.
- Hydroxyethylcellulose naphthalene-1,8-dicarbonate, 1657.
- Hydroxyethylcellulose naphthenate, 1660.
- Hydroxyethylcellulose oleate, mfr., 2641.
- Hydroxyethylcellulose palmitate mfr., 2641.
- Hydroxyethylcellulose phthalate, 1657.
- Hydroxyethylcellulose propionate, mfr., 2641.
- Hydroxyethylcellulose stearate, mfr., 2641.
- Hydroxyethylcellulose succinate, 1657.
- Hydroxyethylcellulose tartrate, 1657.
- Hydroxyethylenesulfonic acid*, *see* *Isethionic acid*.
- Hydroxyethylethylcellulose, 2625.
- Hydroxyethyl laurate, 2625.
- Hydroxyethyl linoleate, 2054.
- , lacquer containing, 2428.
- b*-Hydroxyethyl linoleate, 1591.
- , ethylcellulose lacquer with, 234.
- Hydroxyethyl-mono-n-butyl ether*, *see* *Ethylene glycol mono-n-butyl ether*.
- Hydroxyethyl-*a*-naphthylamine, cellulose acetate dyed using, 962.
- , cellulose ether dyed using, 2268, 2270.
- w*-Hydroxyethyl-1-naphthylamine, cellulose acetate dyed using, 751.
- Hydroxyethyl-2-naphthylamine, cellulose ether dyed using, 2257.
- Hydroxyethyl oleate, cellulose acetate delustred by, 946.
- , delustring with, 2186.
- Hydroxyethyl palmitate, 2625.
- Hydroxyethylpropylcellulose, 2625.
- Hydroxyethyl stearate, 2625.
- 1-*b*-Hydroxyethylthiolanthraquinone, cellulose ether dyed with, 142, 2267.
- b*-Hydroxyethyl-*m*-toluidine, cellulose acetate dyed using, 2246.
- , cellulose ether dyed using, 199.
- 5-Hydroxy-(*b*-hydroxyethylamino)-anthraquinone, cellulose ether dyed using, 2246.
- 1-*Hydroxy-isoquinoline*, *see* *Isocarbostyryl*.
- 4-*Hydroxy-2-keto-4-methylpentan*, *see* *Diacetone alcohol*.
- Hydroxylamine, 148, 1769.
- , catalyst in wood pulp acetation, 542.
- , delustring with, 2186.
- , neutralizant in cellulose acetation, 327.

- Hydroxylamine, printing cellulose ether using, 2324.  
 Hydroxylamine chlorhydrate, gold precipitated by, 2448.  
 Hydroxylamine hydrochloric acid, amines solvent for, 2011.  
 Hydroxylamine sulfate, catalyst in cellulose acetate mfr., 414.  
 1-Hydroxy-2-methoxy-2-methoxy-4-allylbenzene, 1863.  
 1-Hydroxy-2-methoxy-4-propenylbenzene, 1863.  
 Hydroxy-*b*-methoxysuccinic acid, mfr. of, 42.  
 Hydroxymethylbutylcellulose, 2625.  
 Hydroxymethylcellulose, 1657.  
 —, mfr., 1621.  
 Hydroxymethylcellulose fumarate, 1657.  
 Hydroxymethylcellulose glutarate, 1657.  
 Hydroxymethylcellulose malate, 1657.  
 Hydroxymethylcellulose malonate, 1657.  
 Hydroxymethylcellulose naphthalene-1,8-dicarbonate, 1657.  
 Hydroxymethylcellulose phthalate, 1657.  
 Hydroxymethylcellulose succinate, 1657.  
 Hydroxymethylcellulose tartrate, 1657.  
 Hydroxymethylethylcellulose, 2625.  
 Hydroxymethylfurfural, 1134.  
 Hydroxymethylpropylcellulose, 2625.  
 4-Hydroxy-*N*-methyl-2-quinolone, cellulose ether dyed using, 2263.  
 2-Hydroxynaphthalene, cellulose acetate dyed using, 722.  
 1-Hydroxynaphthalene-4-arylketone, cellulose acetate dyed using, 831.  
 2-Hydroxynaphthalene-3-carboxylic acid, cellulose acetate dyed using, 881.  
 2-Hydroxyisnaphthalic acid, cellulose acetate dyed using, 2235.  
 Hydroxynaphthene, 2634.  
 Hydroxynaphthoic acids, cellulose ether dyed using, 2265.  
*b*-Hydroxynaphthoic acid, cellulose acetate dyed using, 493, 503, 540, 606, 643, 966.  
 —, cellulose ether dyed using, 2280, 2306.  
 2,3-Hydroxynaphthoic acid, 129, 2638.  
 —, cellulose acetate dyed using, 675, 676, 750, 853, 983, 2248.  
 —, cellulose ester dyed using, 238, 242.  
 —, cellulose ether dyed using, 238, 242, 2269, 2274, 2278, 2286, 2311.  
 —, discharge effect with, 2347.  
 —, 2',3'-Hydroxynaphthoyl-4-amino-1,2-dimethoxybenzene made from, 281.  
 4-Hydroxy-*a*-naphthoic acid, cellulose acetate dyed, 547.  
 —, cellulose ether dyed using, 2264.  
 2-Hydroxy-3-naphthoic acid anilid, cellulose ester dyed using, 287.  
 —, cellulose ether dyed using, 287.  
 —, diazotized, cellulose ether dyed with, 158.  
 —, —, methylcellulose dyed with, 158.  
 —, dyes, solubilized, using, 2478.  
 2,3-Hydroxynaphthoic acid anilid, cellulose ether dyed using, 2263.  
 2-Hydroxy-3-naphthoic acid arylide, cellulose ester dyed using, 287.  
 —, cellulose ether dyed using, 287.  
 2,3-Hydroxynaphthoic anilid, lacquer, colored, containing, 2425.  
 2:3-Hydroxynaphthoic arylamide, cellulose acetate dyed using, 752.  
 —, cellulose ether dyed using, 253, 2263.  
 4-Hydroxy-1-naphthoic esters, 2249.  
 —, cellulose acetate dyed using, 1010.  
 2,3-Hydroxynaphthoic-*m*-nitroanilid, cellulose ester dyed using, 219.  
 —, cellulose ether dyed using, 219, 2269.  
 2,3-Hydroxynaphthoxy-2'-toluidine, cellulose ether dyed using, 2263.  
 2',3'-Hydroxynaphthoyl-4-amino-1-alkoxyethyl benzene, cellulose ether dyed using, 2263.  
 2',3'-Hydroxynaphthoyl-4-amino-1-alkoxymethylbenzene, cellulose ester dyed with, 235.  
 —, cellulose ether dyed with, 235, 2263.  
 2',3'-Hydroxynaphthoyl-4-amino-1,2-dimethoxybenzene, cellulose ester dyed using, 281.  
 —, cellulose ether dyed using, 281.

- 2'.3'-Hydroxynaphthoyl-4-amino-1,2-dimethoxybenzene, mfr. of, 281.
- 2'.3'-Hydroxynaphthoyl-4-amino-3-methyl-1-methoxybenzene, cellulose ether dyed using, 2263.
- 2,3-Hydroxynaphthoyl-2-amino-3-naphthol methyl ether, cellulose dyed with, 196.
- , dyeing with, 196.
- 2,3-Hydroxynaphthoyl-2'-anisidine, cellulose ester dyed using, 284.
- , cellulose ether dyed using, 284.
- 2,3-Hydroxynaphthoyl-2'-toluidine, cellulose ester dyed using, 284.
- , cellulose ether dyed using, 284.
- 5-Hydroxy-*a*-naphthylamine, cellulose acetate dyed with, 511.
- , cellulose ether dyed using, 2271.
- 2,3-Hydroxynaphthyl-aminohydroquinone-dimethyl ether, cellulose acetate dyed using, 674.
- bis*-(Hydroxyphenyl) cyclohexane, 1980.
- bis*-(Hydroxyphenyl) naphthene, 1980.
- 2,2-*bis*-(Hydroxyphenyl) propane, solvent, 1801.
- 1-Hydroxy-2-propanone, *see* *Acetol*.
- Hydroxypropionic esters, 1942.
- Hydroxypropylbutylcellulose, 2625.
- Hydroxypropylcellulose, 1390, 1394, 1659, 2624, 2625.
- , cellulose ester sized by, 282.
- , mfr., 290.
- , methyl alcohol solvent for, 290.
- , sizing with, 282.
- Hydroxypropylcellulose acetate, 1648, 2624, 2625.
- , mfr., 290, 2641.
- Hydroxypropylcellulose butyrate, 1659.
- , mfr., 2641.
- Hydroxypropylcellulose laurate, mfr., 2641.
- Hydroxypropylcellulose oleate, mfr., 2641.
- Hydroxypropylcellulose palmitate, mfr., 2641.
- Hydroxypropylcellulose propionate, mfr., 2641.
- Hydroxypropylcellulose stearate, mfr., 2641.
- Hydroxypropylethylcellulose, 2625.
- Hydroxypropylhydroxybutylcellulose, 1660.
- Hydroxypropylhydroxybutylcellulose benzoate, 1660.
- Hydroxypropyl laurate, 2625.
- Hydroxypropylpropylcellulose, 2625.
- Hydroxypropyl starch, cellulose ester sized by, 282.
- , sizing with, 282.
- Hydroxyquinol *monoacetate*, 1927.
- , cellulose ether solvent, 54.
- Hydroxyquinol diacetate, 1927.
- , cellulose ether solvent, 54.
- Hydroxy-quinoline*, *see* *Carbostyryl*.
- 4-Hydroxy-2-quinoline, *N*-alkylated, cellulose ether dyed using, 2263.
- Hydroxyquinone *monoacetate*, cellulose ether solvent, 54.
- Hydroxyquinone diacetate, cellulose ether solvent, 54.
- mono*-Hydroxystearic acid, pentaerythrite condensate of, 303.
- 4-Hydroxy-1-tertiary-butylbenzene, cellulose acetate plastifier, 798.
- 3-Hydroxythionaphthene, cellulose ether dyed using, 148, 2261.
- Hydroxytolyl alcohol, 297, 1583.
- 1-Hydroxy-4-*p*-tolylaminoanthraquinone, cellulose ether dyed using, 2228.
- Hydroxytolyl phosphate, 1897.
- Hydroxytri-arylmethane, mildew-proofing using, 2202.
- 2-Hydroxy-1,3-trimethylene sulfide, 2638.
- Hydroxyxylyl alcohol, 297, 1583.
- Hyppnone*, *see* *Acetophenone*.
- Hypoazotid*, *see* *Nitrogen tetroxide*.
- Hypobromites, cellulose oxidized by, 12.
- Hypochlorites, cellulose acetates bleached with, 684.
- , cellulose ether bleached by, 2121.
- , cellulose oxidized by, 12.
- Hypochlorous acid, cellulose treated with, 1139.
- Hypophosphorus acid, 2059.
- Hyposulfite, pattern effect produced by, 2348.
- Hyposulfite NF, 826, 2320.
- Hyposulfites, discharging with, 852.
- Hyraldite Z, discharge effect by, 674.
- Hyssop oil, 2044, 2045.

- Ice colors, 62.
- , cellulose acetate dyed with, 510, 622.
- , cellulose ether dyed using, 2259, 2270, 2299.
- , mfr. of, 253.
- Iceland moss, 1161.
- , film containing, 486.
- Ichthyol, 2446.
- Igniter, benzylcellulose for coating, 2471.
- Imacol, cellulose acetate dye, 677.
- , immune cotton dyed with, 642.
- Imacol Blue R, cellulose acetate dyed using, 690.
- , viscose dyed using, 690.
- , wool dyed using, 690.
- Imacol dyes, 2314.
- 1-Imino-4-*p*-aminoanilino-*b*-naphthol, cellulose acetate dyed using, 751.
- 1-Imino-2-hydroxy-(4'-amino-phenylimino)naphthalene, cellulose ether dyed with, 181, 2286.
- 1-Imino-2-hydroxy-4-*p*-tolylimino-naphthalene, cellulose ether dyed with, 181.
- Imitation leather*, see *Leather*, *imitation*.
- Imitation rubber*, see *Rubber*, *imitation*.
- Immune yarn, mfr., 725.
- Immunizing, 2313.
- Impregnating, cellulose esters for, 198.
- , cellulose ethers for, 198.
- Incandescent gas mantle*, see *Mantle*, *gas*.
- Incandescent mantle*, see *Mantle*, *incandescent*.
- Inceloid, 991.
- Incubation, cellulose ether viscosity reduced by, 1361, 1363.
- Indamine, cellulose acetate dyed using, 592.
- , cellulose ether dyed using, 2285.
- , cellulose ether film containing, 2512.
- Indanthrene, 2321.
- , cellulose acetate dyed by, 390, 606, 637, 640.
- , cellulose ether dyed with, 2242.
- Indanthrene Blue GCD, threads, effect, dyed by, 2331.
- Indanthrene Blue RS, cellulose ether dyed with, 2262.
- Indanthrene Bordeaux B, cellulose acetate dyed by, 512.
- Indanthrene Brilliant Violet RR, cellulose acetate dyed with, 723.
- , cotton dyed using, 723.
- Indanthrene Orange 3R, cellulose acetate dyed using, 723.
- , cotton dyed using, 723.
- Indanthrene Pink B, dyeing with, 2243.
- Indanthrene Red Violet RR, cellulose ether dyed with, 2147.
- Indanthrene Red Violet RRK, dyeing with, 2243.
- Indanthrene X, cellulose acetate dyed with, 512.
- Indene, 1095, 1806, 1872, 1904, 2053.
- , plastic made using, 2577.
- , polymerized, cellulose acetate made with, 589.
- India rubber, cellulose acetate with, 368.
- , cellulose acetate plastic with, 423.
- , cellulose nitrate with, 368.
- , see also *Rubber*.
- Indian cotton*, see *Cotton*, *Indian*.
- Indian corn*, see *Corn*, *Indian*.
- Indian hemp, 2446.
- Indigo, cellulose acetate dyed with, 661, 686.
- , cellulose ether dyed by, 62, 2226, 2253.
- Indigo, methyl sulfate as solvent of, 1263.
- Indigodiacetic acid, cellulose acetate dyed using, 597.
- , cellulose ether dyed using, 2279.
- Indigoid dyes, 2633.
- Indigoid series, cellulose acetate dyed using, 780.
- , cellulose ether dyed using, 2227.
- Indigo LL, cellulose ether dye, 2147.
- Indigosol Green IB, 1027.
- Indigosol OR, 1027.
- Indigosol R, 1027.
- Indigosols, 2351.
- , cellulose acetate dyed using, 650.
- , cellulose acetate printed with, 805.
- Indigotin, amines solvent for, 2011.
- , see also *Indigo*.
- Indole, 1730, 2633.
- , amines solvent for, 2011.
- 2-Indole-2'-(5'-phenylamine)benzene indigo, 2634.

- Indophenol, 180.  
—, cellulose acetate dyed using, 649.  
—, cellulose ester dyed using, 264.  
—, cellulose ether dyed using, 264, 2244.  
—, dispersing, 2209.  
Indophenols, cellulose acetate dyed using, 502, 528, 592, 618, 717.  
—, cellulose ether dyed with, 115, 2282, 2285.  
Indulin, cellulose acetate dyed with, 512.  
Inflammability, cellulose ether, reducing, 43, 2058.  
*Inflammable liquids, see Liquids, inflammable.*  
Infusorial earth, cellulose acetate fabric treated with, 631.  
Ink, cellulose acetate, 943, 995.  
—, butyl alcohol in mfr. of, 2547.  
—, balata for mfr. of, 2547.  
—, cellulose ester, 964.  
—, cellulose ester for mfr. of, 2547.  
—, cellulose ether, 2474, 2609.  
—, cellulose ether for mfr. of, 2547.  
—, copying, stains from, removing, 2552.  
—, ethylcellulose for, 2475.  
—, fabric marking, 2325.  
—, gutta percha for mfr. of, 2547.  
—, lampblack for, 2475.  
—, lithographic, cellulose ether in, 236.  
—, marking, cellulose acetate with, 603.  
—, —, mfr., 2329, 2330.  
—, methylethylene glycol for mfr., 2547.  
—, pigment, mfr., 1927.  
—, printing, 2329.  
—, —, ethyleneglycol for, 1851.  
—, —, ethylglycol for, 1851.  
—, —, mfr., 2330.  
—, rubber for mfr., 2547.  
—, stains from, removal of, 281.  
—, stamping, mfr., 1084.  
—, tetrahydronaphthalene for mfr., 2547.  
—, toluene for mfr., 2547.  
Inosite, ethylating, 109.  
Inosite hexacetate, 319.  
Insect, castor oil for entangling, 711.  
—, cellulose acetate for entangling, 711.  
Insole, celluloid in mfr., 2472.  
Insole, waterproof, cellulose acetate, 433.  
—, —, cellulose nitrate, 433.  
Instrument, strings, cotton, impregnated with cellulose acetate, 638.  
—, —, hemp impregnated with cellulose acetate, 638.  
—, —, jute impregnated with cellulose acetate for, 638.  
—, —, ramie impregnated with cellulose acetate for, 638.  
—, —, silk impregnated with cellulose acetate for, 638.  
—, —, wool impregnated with cellulose acetate for, 638.  
*Instrument handles, see Handles, instrument.*  
Insulating, benzene for, 2424.  
—, benzylcellulose for, 176, 295, 1571.  
—, benzyl chloride in mfr., 1297.  
—, butylcellulose with, 1340.  
—, castor oil oxidized for, 459.  
—, cellulose acetate for, 370, 415, 459, 702, 725, 802, 923, 928, 964, 1027, 1690.  
—, cellulose acetate composition for, 364, 950.  
—, cellulose acetobutyrate for, 980.  
—, cellulose ester for, 286.  
—, cellulose ether for, 43, 282, 286, 1302, 1303, 1444, 2438.  
—, constituent, peat for, 1165.  
—, corn oil oxidized for, 459.  
—, cottonseed oil oxidized for, 459.  
—, cresylic acid for, 586.  
—, cyclohexanone for, 2424.  
—, dibutyl methylenetetrahydrophthalate for, 2424.  
—, electric, acetone in mfr., 1880.  
—, —, cellulose ether for, 2598, 2635.  
—, ethylcellulose for, 176, 2424.  
—, furfural for, 802.  
—, iron oxide for, 2424.  
—, linseed oil oxidized for, 459.  
—, methylcellulose for, 176.  
—, methylcyclohexanone for, 2424.  
—, mfr., acaroid in, 725.  
—, —, cellulose in, 725.  
—, —, gilsonite in, 725.  
—, —, soap in, 725.  
—, olive oil oxidized for, 459.  
—, phenyl acetate for, 923.  
—, phosphoric acid for, 923.  
—, propylcellulose for, 1338.

- Insulating, resin, artificial, for, 923.  
 —, sound, benzylcellulose in, 2439.  
 —, —, ethylcellulose in, 2439.  
 —, —, methylcellulose in, 2439.  
 —, soy bean oil oxidized for, 459.  
 —, sperm oil oxidized for, 459.  
 —, toluene for, 2424.  
 —, tung oil for, 923.  
 —, zinc oxide for, 2424.  
*Insulating cable, see Cable, insulating.*  
 Insulating material, benzylcellulose for, 46.  
 Insulating power, cellulose ether, 2441.  
 Insulator, benzylcellulose with bitumen as, 96.  
 —, butylcellulose with bitumen as, 96.  
 —, cellulose acetate for, 485.  
 —, electric, mfr., cellulose acetate in, 880.  
 —, —, —, cellulose ether in, 136.  
 —, electrical, paper, cellulose acetate impregnated, 691.  
 —, —, —, cellulose nitrate impregnated, 691.  
 —, ethylcellulose with bitumen as, 96.  
 —, mfr., bitumen in, 576.  
 —, —, cellulose acetate in, 576.  
 —, —, cellulose ester in, 187.  
 —, —, cellulose ether in, 187.  
 —, methylcellulose with bitumen as, 96.  
 —, propylcellulose with bitumen as, 96.  
 Insuloid, 2567.  
 Intaglio plate, cellulose acetate in mfr., 986.  
 Inulin, 1156.  
 —, acetylation of, 441.  
 —, alkylated, cosmetic mfr. using, 87.  
 —, —, detergent mfr. using, 87.  
 —, —, disinfectant mfr. using, 87.  
 —, —, soap mfr. using, 87.  
 —, benzyl ether of, 69.  
 —, etherifying, 1418.  
 —, ethylating, 101.  
 —, glycollic ethers of, 56, 57.  
 —, heat of combustion, 1158.  
 —, monomethyl, 95.  
 —, methylation of, 81, 95, 101, 1160, 1307.  
 Inulin acetate, 1158, 1159.  
 —, freezing point of, 875.  
 Inulin esters, 1157.  
 Inulin ethers, 1159.  
 Inulin ethyl ether, 44.  
 Inulin glycollate, 56, 57.  
 Inulin hexa-acetate, 1158.  
 Inulin triacetate, 1157, 1158, 1159, 1161, 1492.  
 —, heat of combustion, 1158.  
 —, molecular weight of, 600.  
 Inulin tripalmitate, 1159.  
 —, mfr., 550.  
 Inulin tristearate, 1159.  
 —, mfr., 550.  
*Iodamyl, see Amyl iodide.*  
*Iodantipyrine, see Iodopyrine.*  
*Iodide, starch, see Starch iodide.*  
 Iodine, acetation of, 309.  
 —, benzyl chloride made using, 1293.  
 —, cellulose acetate etherified in presence of, 1434.  
 —, cellulose action by, 1138.  
 —, cellulose benzoate etherified in presence of, 1434.  
 —, cellulose butyrate etherified in presence of, 1434.  
 —, cellulose formate etherified in presence of, 1434.  
 —, cellulose propionate etherified in presence of, 1434.  
 —, monochloroacetic acid made using, 828.  
 —, methyl chloride solvent for, 1253.  
 —, solid alcoholic, mfr., 2481.  
 Iodine chloride, trichlorhydrin made using, 572.  
 —, trichloropropane made using, 572.  
 Iodine monobromide, catalyst in acetating, 401.  
 Iodine monochloride, catalyst in acetating, 401.  
 Iodine trichloride, catalyst in acetating, 401.  
 —, cellulose purified by, 1409.  
*Iodized albumen, see Albumen, iodized.*  
*mono-Iodo-acetic acid, cellulose compounds with, 161.*  
 Iodobenzene, 1826.  
 —, celluloid solvent, 890.  
 —, cellulose acetate solvent, 890, 1785.  
 —, cellulose ester solvent, 267.  
 —, cellulose ether solvent, 267.

- Iododiisobutyl-O-cresol*, see *Europhen*.  
Iodoform, 1811, 2446.  
—, cellulose acetate clarified by treating, 1030.  
—, dental plate containing, 2537.  
—, film made using, 2503.  
—, film sensitizer, 599.  
Iodol, 2446.  
*Iodomethane*, see *Methyl iodide*.  
*Iodo (mono) ethane*, see *Ethyl iodide*.  
*Iodophenacetin*, see *Iodophenin*.  
*b-Iodopropionic acid*, cellulose derivatives of, 88.  
*mono-Iodo-propionic acid*, cellulose compounds with, 161.  
*Iohydrin*, see *Di-iodoisopropyl alcohol*.  
Ionamine, 582, 826.  
—, cellulose acetate dyed using, 540, 556, 618, 619, 677, 707.  
Ionamine A, cellulose acetate dyed using, 540.  
—, cellulose ester dyed using, 2290.  
Ionamine B, cellulose acetate dyed using, 540.  
—, cellulose ester dyed using, 2290.  
Ionamine H, cellulose acetate dyed using, 540.  
—, cellulose ester dyed using, 2290.  
Ionamine L, cellulose ester dyed using, 2290.  
Ionamine dyes, cellulose ether dyed using, 2289, 2312, 2320, 2327.  
Iridescence, producing, cellulose acetate for, 584.  
Iridescent effect, producing, 2362.  
Iridium, emulsion of, cellulose ether for, 86.  
Iridium selenide, mfr., 2447.  
Iridium telluride, mfr., 2447.  
Iridizing, 884.  
Irish moss, cellulose acetate dyed in presence of, 651.  
Iron, acetic anhydride mfr. using, 632.  
—, catalyst, 492, 865.  
—, cellulose acetate etherified in presence of, 1434.  
—, cellulose acetate as resistance material, 801.  
—, cellulose benzoate etherified in presence of, 1434.  
—, cellulose butyrate etherified in presence of, 1434.  
Iron, cellulose formate etherified in presence of, 1434.  
—, cellulose propionate etherified in presence of, 1434.  
—, corrosion, see *Iron, action acid on*.  
—, dichlorethylene made using, 550.  
—, discharge of salt of, for cellulose ether, 184.  
—, powdered, cellulose ether lacquer containing, 2404.  
—, salts, cellulose treated with, 1137.  
Iron acetate, waterproofing with, 218.  
Iron (ous) acetate, cellulose acetate viscosity reduced by, 602.  
—, loading with, 2152.  
Iron (ic) ammonium sulfate, methylcellulose for dispersing, 2478.  
Iron amyl phthalate, 1974.  
Iron monoamyl phthalate, lacquer of cellulose acetate and, 613, 2396.  
Iron benzoate, loading with, 2155.  
Iron bisulfate, catalyst in cellulose formate mfr., 904.  
Iron benzyl phthalate, 1975.  
Iron borate, catalyst, 866.  
—, catalyst in acetic acid mfr., 834.  
Iron bromide, catalyst in cellulose acetate mfr., 1031.  
—, cellulose acetate made using, 773.  
Iron (ic) bromide, catalyst in cellulose acetate mfr., 774.  
—, cellulose pretreated with, 866.  
Iron butyl phthalate, 1974, 1975.  
—, lacquer containing, 2293, 2396.  
Iron monobutyl phthalate, lacquer of cellulose acetate and, 613.  
Iron *n*-butyl phthalate, enamel of cellulose derivative and, 230.  
Iron (ic) butyl resin, properties, 613.  
Iron carbonate, acetone made using, 772.  
—, zinc acetate made using, 772.  
Iron chloride, 1710, 1714, 2244, 2252, 2446.  
—, basic, catalyst in cellulose acetate mfr., 958.  
—, benzylcellulose waterproofed by, 2158.

- Iron chloride, benzyl chloride made using, 1293.  
 —, catalyst, 539.  
 —, catalyst in aldehyde mfr., 782.  
 —, catalyst in cellulose acetate mfr., 354, 412, 465, 774, 1031.  
 —, catalyst in cellulose acetylating, 433, 1062.  
 —, catalyst in cellulose formate mfr., 904.  
 —, catalyst in ethyl chloride mfr., 1268.  
 —, cellulose acetate made using, 773.  
 —, cellulose acetate mfr. in presence of, 774.  
 —, cellulose acetate saponified by, 805.  
 —, cellulose acetate treated with, 615, 617.  
 —, cellulose ester dyed using, 239.  
 —, cellulose ether dyed using, 239, 2476.  
 —, cellulose ether fixative, 104.  
 —, cellulose ether treated with, 271.  
 —, cellulose pretreated with, 866.  
 —, ethylcellulose waterproofed by, 2158.  
 —, lacquer, black, made using, 2414.  
 —, lake in cellulose ether produced with, 166.  
 —, leather, artificial, made with cellulose acetate and, 623.  
 —, loading with, 2145.  
 —, methylcellulose waterproofed by, 2158.  
 —, mordant for, cellulose acetate, 809.  
 —, mordanting with, 143.  
 —, mordanting cellulose ether with, 104, 226.  
 —, waterproofing cellulose ether with, 217.  
 —, waterproofing with, 217.  
 —, weighting cellulose ether by, 226, 229.  
 Iron(ic) citrate, loading with, 2152.  
 Iron compounds, mordanting with, 218.  
 —, weighting with, 218.  
 Iron cyclohexyl phthalate, 1975.  
 Iron disulfide, *see* Pyrites.  
 Iron ethyl phthalate, 1974, 1975.  
 Iron monoethyl phthalate, lacquer containing, 2396.  
 Iron monoethyl phthalate, lacquer of cellulose acetate and, 613.  
 Iron(ic) ferrocyanide, cellulose ether colored by, 129.  
 Iron hexahydrobenzoate, *see* Iron naphthenate.  
 Iron hydroxide, cellulose ether colored by, 266.  
 —, mordanting with, 266, 2152.  
 Iron (ic) hydroxide, catalyst in cellulose acetate mfr., 1031.  
 Ironing, benzylcellulose, 1587.  
 —, cellulose acetate, 874.  
 —, reducing temperature of, 1099.  
 —, temperature, raising, 2147, 2150, 2158, 2162, 2163, 2164, 2165, 2169.  
 Iron iodide, catalyst in cellulose acetate mfr., 1031.  
 —, cellulose acetate made using, 773.  
 Iron (ic) iodide, cellulose pretreated with, 866.  
 Iron(ic) laurate, benzylcellulose and as lacquer, 235.  
 —, lacquer containing, 1573, 2419.  
 —, lacquer, ship bottom, containing, 2419.  
 Iron methyl phthalate, 1974, 1975.  
 Iron naphthenate, 1965.  
 —, cellulose acetate plastifier, 481.  
 —, lacquer, ship bottom, containing, 2419.  
 —, leather, artificial, made using, 481.  
 —, stencil sheet made using, 976, 2490.  
 Iron nitrate, cellulose acetate saponified by, 805.  
 —, mordanting with, 143.  
 Iron oleate, cellulose ether weighted with, 227.  
 —, delustring with, 2183.  
 Iron oxide, acetaldehyde mfr. using, 481, 578.  
 —, catalyst in acetaldehyde mfr., 781.  
 —, catalyst in acetic acid mfr., 781, 957.  
 —, catalyst in cellulose acetate mfr., 1031.  
 —, cellulose ether colored by, 266.  
 —, delustring with, 2175.  
 —, ethylbutylcellulose and, for lacquer mfr., 2426.  
 —, lacquer containing, 2424, 2428.  
 —, loading with, 2156.



- Iron oxide, methylbutylcellulose and, for lacquer mfr., 2426.  
—, mordanting with, 266.  
Iron palmitate, cellulose ether weighted with, 227.  
—, delustring with, 2183.  
Iron phenyl phthalate, 1975.  
Iron phosphate, catalyst, 866.  
—, catalyst in acetic acid mfr., 834.  
—, loading with, 2145.  
Iron(ic) phthalate, 1906.  
—, loading with, 2155.  
Iron propyl phthalate, 1974.  
Iron monopropyl phthalate, lacquer containing, 2396.  
—, lacquer of cellulose acetate and, 613.  
*Iron pyrites, see Iron sulfide.*  
Iron(ic) resinate, benzylcellulose and, as lacquer, 235.  
—, lacquer containing, 1573, 2419.  
—, lacquer, ship bottom, containing, 2419.  
Iron salicylate, loading with, 2155.  
Iron salt, cellulose ether weighted with, 227.  
—, discharge effect using, 2317.  
—, leather substitute of cellulose acetate and, 760.  
Iron(ic) salt, hydrogen bisulfide oxidant, 148.  
Iron(ous) salt, reducing with, 199.  
Iron silicate, catalyst, 866.  
—, catalyst in acetic acid mfr., 834.  
Iron stearate, benzylcellulose and, as lacquer, 235.  
—, cellulose ether weighted with, 227.  
—, delustring with, 2183.  
—, lacquer containing, 1573, 2419.  
—, lacquer, ship bottom, containing, 2419.  
Iron sulfate, 2252.  
—, benzylcellulose waterproofed by, 2158.  
—, cellulose acetate saponified with, 805.  
—, ethylcellulose waterproofed by, 2158.  
—, methylcellulose waterproofed by, 2158.  
—, waterproofing cellulose ether with, 217.  
Iron(ic) sulfate, acetylene oxidized by, 454.  
Iron(ic) sulfate, catalyst in acet-aldehyde mfr., 1002.  
—, catalyst in cellulose acetating, 354.  
Iron(ous) sulfate, alkalicellulose oxidized with, 1229.  
—, catalyst in acetation, 372, 433.  
—, catalyst in cellulose acetating, 354.  
—, glass made using, 525.  
Iron sulfide, 2252.  
Iron thiocyanate, benzylcellulose mordanted with, 113, 1587.  
—, benzylcellulose waterproofed by, 2158.  
—, ethylcellulose mordanted with, 113.  
—, ethylcellulose waterproofed by, 2158.  
—, loading with, 2154, 2155.  
—, methylcellulose mordanted by, 113.  
—, methylcellulose waterproofed by, 2158.  
—, waterproofing cellulose ether with, 217.  
Iron(ic) thiocyanate, mordanting cellulose ether with, 226.  
—, weighting cellulose ether with, 226.  
*Iron vitriol, see Iron sulfate.*  
Isatin, amines solvent for, 2011.  
—, cellulose ether dyed with, 661.  
Isatin anilid, 2634.  
Isatin  $\alpha$ -chloride, 2633, 2634.  
Isatoic anhydride, 1731, 1732.  
—, derivatives, cellulose ether dyed using, 2277.  
Isinglass, stencil sheet made using, 2499.  
Isoamyl furoate, dilution ratios, 1997.  
Isoborneol, 2023, 2046, 2047.  
—, cellulose acetate plastifier, 352.  
—, cellulose butyrate plastifier, 352.  
—, cellulose ether plastifier, 243.  
—, cellulose formate plastifier, 352.  
—, ethylcellulose plastifier, 151, 243.  
—, plastic made using, 2577, 2578.  
Isoborneol acetate, 1928, 2046.  
—, cellulose ether solvent, 163.  
—, paint containing, 163.  
Isoborneol benzoate, 1959.  
Isoborneol butyrate, 2046.  
—, cellulose ether solvent, 163.

- Isoborneol butyrate, paint containing, 163.  
Isoborneol formate, 2046.  
—, cellulose ether solvent, 163.  
—, paint containing, 163.  
Isoborneol oxalate, 2046.  
Isoborneol phenylcarbamate, 2629.  
Isoborneol phthalate, 2046.  
—, cellulose ether solvent, 163.  
—, paint containing, 163.  
Isoborneol salicylate, 2046.  
—, cellulose ether solvent, 163.  
—, paint containing, 163.  
*Isobutyryloxynaphthoquinone*, see *Filicic acid*.  
*Iso-compounds*, see *iso-Compounds*.  
Isocyanins, halation avoided by, 2509.  
*Isocyanphenyl chloride*, see *Phenylcarbylamine chloride*.  
*Isocyanuric acid*, see *Cyanuric acid*.  
*Isodulcitol*, see *iso-Dulcitol*.  
Isoethionnic acid, 1261.  
Isoeugenol, 1861, 1862, 1930, 1964, 2032, 2045.  
—, airplane coated with, 2484.  
—, cellulose acetate solvent, 580, 582, 1818, 1819.  
Isoeugenolmethyl ether, 1732.  
Isoloid, 665, 2567.  
*a-Isomerides*, 1499.  
*m-Isonitrosopropane*, see *Acetoxime*.  
*Isopral*, see *Trichlorisopropyl alcohol*.  
Isoprene, 192.  
—, cellulose acetate plastifier, 429.  
—, cellulose acetate solvent, 477.  
—, cellulose benzoate plastifier, 429.  
—, cellulose butyrate plastifier, 429.  
—, cellulose ether and, as plastic, 254.  
—, cellulose formate plasticizer, 429.  
—, polymerizing, 2547.  
*Isopropylbenzene*, see *Cumene*.  
*Isopropylcarballylic acid*, see *Camphoronic acid*.  
*Isopropyl carbinol*, see *iso-Butyl alcohol*.  
*Isopropyl formic acid*, see *iso-Butyric acid*.  
*Isopropylidene acetone*, see *Mesityl oxide*.  
*Isopropyltoluene*, see *Cymene*.  
Isoquinoline, amines solvent for, 2011.  
*Isosaccharic acid*, see *iso-Saccharic acid*.  
Isosaccharinic acid, 1143.  
Isosafrol, 1964.  
*Isotartaric acid*, see *m-Tartaric acid*.  
*Isovaleraldehyde*, see *iso-Valeraldehyde*.  
Itaconic acid, esters of, 844.  
Ivory, artificial, cellulose ether in mfr. of, 2580.  
—, cellulose acetate in simulating, 580.  
—, imitation, 1670.  
—, —, benzylcellulose for, 1556.  
—, —, mfr. of, 2343, 2562.  
Ivory Cross, 2567.
- J—acid, cellulose acetate dyed using, 610.  
Jacket, insulated, cellulose acetate for, 746.  
Jacquard faille, cellulose acetate fabric, 630.  
Japanese paper, mfr., 664.  
*Japanese wood oil*, see *Tung oil*.  
Japan wax, 2053.  
—, cellulose acetate lacquer containing, 841.  
—, ethylcellulose solvent, 19, 1300.  
—, foil made using, 999.  
—, solvents for, 1849.  
—, starch ether solvent, 1483.  
—, stencil sheet made using, 96, 109, 663, 1488, 2493, 2497, 2499.  
Jar, covering, cellulose acetate for, 475.  
—, portable, insulating, cellulose acetate for, 2439.  
Jelling, cellulose ether, prevention of, 1349.  
—, ethylcellulose, prevention of, 1349.  
—, methylcellulose, prevention of, 1349.  
—, preventing, 162.  
Jet, spinning, 160.  
—, —, multiple, 2108.  
Joints, glass, cementing, 2392.  
*Juniper, empyreumatic oil of*, see *Cade oil*.  
Juniper berry oil, cellulose acetate solvent, 1818, 1819.  
Juniper oil, 1964, 2045.  
Jute, benzylating, 293.

- Jute, benzylcellulose applied to, 171.  
 —, benzylcellulose coated, 215.  
 —, cork separated from, 529.  
 —, etherification of, 12, 1415.  
 —, ethylating, 293.  
 —, gut substitute made of cellulose acetate impregnated, 638.  
 —, instrument strings made of cellulose acetate impregnated, 638.  
 —, methylating, 293.  
 —, packing made using, 487.  
 —, racket strings made of cellulose acetate impregnated, 638.
- Kaline Blue M, cellulose acetate dyed using, 600.  
 —, viscose dyed using, 600.  
 —, wool dyed using, 600.  
 Kaline Bright Blue A, cellulose acetate dyed using, 600.  
 —, viscose dyed using, 600.  
 —, wool dyed using, 600.  
 Kaline Bright Violet R, cellulose acetate dyed using, 600.  
 —, viscose dyed using, 600.  
 —, wool dyed using, 600.  
 Kaline colors, cellulose acetate dyed using, 600.  
 —, viscose dyed using, 600.  
 —, wool dyed using, 600.  
 Kaline Helio P, cellulose acetate dyed using, 600.  
 —, viscose dyed using, 600.  
 —, wool dyed using, 600.  
 Kaline Orange G, cellulose acetate dyed using, 600.  
 —, viscose dyed using, 600.  
 —, wool dyed using, 600.  
 Kaline Red G, cellulose acetate dyed using, 600.  
 —, viscose dyed using, 600.  
 —, wool dyed using, 600.  
 Kaline Scarlet L, 600.  
 Kaline Skyblue G, 600.  
 Kaline Yellow T, 600.  
 Kandol, *see* Canadol.  
 Kaolin, 961.  
 —, delustring with, 275, 2179, 2183, 2187, 2194.  
 —, discharge printing using, 961.  
 Katanol, cellulose acetate dyed using, 673.  
 Katanol W, cellulose acetate dyed using, 708.  
 Katanol W dyes, cellulose ether dyed using, 2312.
- Katarin, *see* Carbon tetrachloride.  
 Kauri, 2042, 2053.  
 —, amyl furoate solvent for, 1997.  
 —, benzylcellulose and, 175, 178.  
 —, butyl furoate solvent for, 1997.  
 —, cellulose ether varnish, 135.  
 —, constants of, 2056.  
 —, cyclohexanone solvent of, 1985.  
 —, dioxane solvent for, 1876.  
 —, ethylcellulose and, 175, 178.  
 —, ethyl furoate solvent for, 1997.  
 —, furfural solvent for, 1997.  
 —, furfuryl alcohol solvent for, 1997.  
 —, methylcellulose and, 175, 178.  
 —, methyl furoate solvent for, 1997.  
 —, propyl furoate solvent for, 1997.  
 —, shells, shotgun, waterproofing with, 2414.  
 —, solvents for, 1849.  
 —, tetrahydrofurfuryl alcohol solvent for, 1997.  
 Kayada, stencil sheet made using, 2491.
- Kelene, *see* Ethyl chloride.  
 Kemsolene T, *see* Mineral spirits.  
 Keratin, cellulose ether strengthened by, 255.  
 —, cellulose nitrate film coated with, 706.  
 —, sizing with, 2139.  
 Kerosene, cellulose ether nonsolvent, 2077, 2091.  
 —, solvents for, 1849.  
 Keten, acetic anhydride made from, 680.  
 —, mfr. of, 633, 772, 779, 802.  
 Ketopropane, *see* Acetone.  
*b*-Ketobutyric acid, 1929.  
 Ketohexamethylene, cellulose acetate plastifier, 522.  
 —, *see also* Cyclohexanone.  
 Ketol, *see* Ketone mixture.  
 Ketonecyanohydrin, 2401.  
 Ketone-furfuraldehyde, fabric coated with, 741.  
 —, gauze coated with, 741.  
 —, netting coated with, 741.  
 Ketone-phenol-aldehyde, fabric coated with, 741.  
 —, gauze coated with, 741.  
 —, netting coated with, 741.  
 Ketone-phenol-aldehyde resin, 136, 2053.  
 Ketones, aliphatic, mfr., 1032.  
 —, cellulose acetate precipitated by, 1043.

*Ketopentamethylene, see*

*Cyclopentanone.*

2-Ketoxyllose, 277.

Key, piano, cellulose acetate in mfr. of, 707.  
presence of, 651.

K gum, cellulose acetate dyed in Kieselguhr, acetic anhydride made using, 605, 769.

—, alcohol solidified using, 486.

—, cellulose acetate delustred using, 854.

—, cellulose acetate film decolorized by, 592.

—, cellulose acetate matt surface made using, 699.

—, cellulose ester delustred by, 221.

—, cellulose ether delustred by, 221.

—, cellulose ether plastic containing, 151.

—, decolorizing with, 492, 592.

—, emulsion containing, 2456.

—, film made using, 2504.

—, plastic made using, 2573.

*Kinematograph film, see Film, continuous.*

*Kinic acid, see Quinic acid.*

*Kinon glass, see Glass, laminated.*

Kite, amber oil for, 489.

*Kreatinin, see Creatinin.*

*Kronilyne, see Triphenyl phosphate.*

*Kronitex, see Tricresyl phosphate.*

Kryptocyanin, halation avoided by, 2509.

*Krystallol, see Benzine.*

*Kyanuran, see Hydroxyquinoline (4).*

Label, cellulose acetate in mfr., 652.

Lace, carbonizing, 2203.

—, designs on, mfr., 2309.

—, mfr. of, 2360.

—, preparation of, 2381.

—, simulating, cellulose acetate for, 765.

Lacing tips, celluloid in mfr., 2472.

Lacquer, acaroid resin and cellulose acetate, 520.

—, acetone for, 1572, 1880.

—, aircraft, cellulose acetate for, 995.

—, airplane, 994.

—, —, benzylcellulose mfr., 1589.

Lacquer, airplane, cellulose acetate in, 438, 570, 690, 727, 872.

—, —, cellulose acetate, mfr., 450.

—, —, cellulose nitrate for, 690.

—, —, ethylcellulose, formula for, 256.

—, —, mfr. of, 256, 257.

—, —, mfr. of, 425, 1035, 1094.

—, —, cellulose acetate for, 537, 613.

—, —, pigment in, 438.

—, —, pigmented, mfr., 439.

—, —, uses, 518.

—, airplane fabric, mfr., 2481.

—, aluminum linoleate as binder in, 458.

—, aluminum palmitate in, 192.

—, aluminum resinate as binder in, 458.

—, anhydrous, cellulose ester, mfr., 191.

—, —, cellulose ether, mfr., 191.

—, —, mfr., 191.

—, asbestos and cellulose ether with, 153.

—, balloon fabric, mfr., 2481.

—, benzene for, 1572, 1803.

—, benzoic acid containing, 645.

—, benzyl-aniline for mfr. of, 282.

—, benzylcellulose for, 235, 260.

—, 282, 1518, 1572, 2403, 2405.

—, benzylcellulose, low viscosity, 2406.

—, —, mfr., 214, 1588.

—, benzylcellulose linoleate for, 1601.

—, biguanide for mfr. of, 282.

—, bottle, capping, 1024.

—, brush, acetalddol as component of, 464.

—, —, cellulose acetate as component of, 464.

—, —, cellulose ether, 156.

—, —, ethyl formate as component of, 464.

—, —, mfr. of, cellulose ether in, 2418.

—, —, methyl acetate as component of, 464.

—, —, methylethyl ketone as component of, 464.

—, —, *see also Brush lacquer.*

—, brushwork, colored, mfr., 2418.

—, butylcellulose, 282, 1341.

—, cadmium monoamyl phthalate with cellulose acetate as, 613.

- Lacquer, cadmium *monobutyl* phthalate with cellulose acetate as, 613.
- , cadmium *monoethyl* phthalate with cellulose acetate as, 613.
  - , cadmium *monopropyl* phthalate with cellulose acetate as, 613.
  - , caoutchouc and cellulose ether, 2404.
  - , carbazole for mfr. of, 282.
  - , carbon bisulfide in, 2424.
  - , Cellon, uses, 526.
  - , celluloid, 2391.
  - , cellulose acetate, 163, 404, 430, 556, 568, 645, 727, 984, 1690.
  - , —, abietate and for, 517.
  - , —, acaroid resin and, 520.
  - , —, aluminum with, 616.
  - , —, aluminum alloy with, 616.
  - , —, analysis, 628.
  - , —, apparatus for applying, 441.
  - , —, applying, 599.
  - , —, benzyl resinate and for, 517.
  - , —, blushing, ethyleneglycol diacetate for preventing, 733.
  - , —, —, preventing, 584.
  - , —, castor oil in, 689.
  - , —, cellulose nitrate and, 835.
  - , —, coloring, 816.
  - , —, copper with, 616.
  - , —, copper alloy with, 616.
  - , —, durability, increasing, 703.
  - , —, dyeing, 813, 816.
  - , —, hexachlorethane in, 394.
  - , —, lead with, 616.
  - , —, lead alloy with, 616.
  - , —, linseed oil and, 450.
  - , —, mfr. of, 402, 425, 440, 473, 489, 513, 514, 539, 547, 583, 613, 645, 648, 649, 730, 746, 801, 803, 876, 887, 938, 949, 967, 969, 1025, 1090, 2390.
  - , —, methyl salicylate in, 689.
  - , —, *b*-naphthol in, 394.
  - , —, phenol in, 537.
  - , —, properties, 514.
  - , —, stability of, increasing, 548.
  - , —, tetrachlorethane in, 689.
  - , —, tin with, 616.
  - , —, tin alloy with, 616.
  - , —, toluenesulfonamid-formaldehyde resin and, 954.
  - , —, tricresyl phosphate, 689.
  - , —, unflammable, mfr., 806.
  - , —, uses, 726.
  - , —, weather resisting, mfr., 473.
  - , —, zinc with, 616.
- Lacquer, cellulose acetate, zinc alloy with, 616.
- , cellulose acetate component of, 429.
  - , cellulose *monoacetate*-distearate, 899.
  - , cellulose aceto-nitrate for, 929.
  - , cellulose butyro-nitrate for, 929.
  - , cellulose dilaurate, 899.
  - , cellulose ester, benzene for, 486.
  - , —, chalking of, preventing, 291.
  - , —, ethyl alcohol for, 486.
  - , —, mfr. of, 136, 151, 290, 291, 304.
  - , —, methyl valerianate for, 486.
  - , cellulose ether, 146, 150, 156, 185, 2388.
  - , —, black, mfr. of, 2414.
  - , —, chalking of, preventing, 291.
  - , —, cloudy, mfr. of, 261.
  - , —, colored, mfr. of, 2403, 2408.
  - , —, mfr. of, 136, 151, 155, 191, 192, 200, 259, 261, 290, 291, 2400.
  - , —, milky, mfr. of, 261.
  - , —, pigmented, mfr., 2408.
  - , —, translucent, mfr. of, 261.
  - , cellulose ether and caoutchouc, 2404.
  - , cellulose ether-oxyn, mfr. of, 2408.
  - , cellulose formate, mfr., 583.
  - , cellulose glycol acetate for, 532.
  - , cellulose nitrate, analysis, 628.
  - , —, cellulose acetate and, 835.
  - , —, dyeing, 813.
  - , —, iridescent, mfr. of, 2430.
  - , —, mfr. of, 151, 969.
  - , cellulose propio-nitrate for, 929.
  - , chalking in, preventing, 291.
  - , china wood oil and cellulose ether in, 2415.
  - , cloudy, mfr. of, 261.
  - , cobalt *monoamyl* phthalate with cellulose acetate as, 613.
  - , cobalt *monobutyl* phthalate with cellulose acetate as, 613.
  - , cobalt *n*-butyl phthalate with cellulose derivative for, 230.
  - , cobalt *monoethyl* phthalate with cellulose acetate as, 613.
  - , cobalt linoleate as binder in, 458.
  - , cobalt *monopropyl* phthalate with cellulose acetate as, 613.
  - , cobalt resinate as binder in, 458.

- Lacquer, colophony glyceride in mfr., 1590.
- , colored, cellulose ether, mfr., 192.
- , —, mfr., 192, 281, 290, 2399, 2421.
- , coloring, 2425.
- , copper *monoamyl* phthalate with cellulose acetate as, 613.
- , copper *monobutyl* phthalate with cellulose acetate as, 613.
- , copper-*n*-butyl phthalate with cellulose derivative for, 230.
- , copper *monoethyl* phthalate with cellulose acetate as, 613.
- , copper naphthenate for, 1573.
- , copper oleate for, 1573.
- , copper *monopropyl* phthalate with cellulose acetate as, 613.
- , coumarine in, 556.
- , cresylic acid in mfr., 489.
- , dibenzyl-aniline for mfr. of, 282.
- , *p*-dichlorobenzene containing, 645.
- , diethyl phthalate for, 1572.
- , dip, castor oil for, 365.
- , —, cellulose acetate, 365.
- , —, cellulose nitrate, 365.
- , —, mfr., 364.
- , —, resins for, 365.
- , diphenylolcyclohexane and benzylcellulose for, 260.
- , diphenylolcycloparaffin and benzylcellulose for, 260.
- , dipping, mfr. of, cellulose ether in, 2418.
- , divinyl ether and cellulose acetate for, 617.
- , durability, 648.
- , dye for, 2397.
- , dyeing, 2425.
- , ester gum for, 1572.
- , ethyl acetate for, 1572.
- , ethylbenzylcellulose acetate for, 1601.
- , *N*-ethylcarbazole for mfr. of, 282.
- , ethylcellulose, 163, 1572, 2405.
- , —, low viscosity, 2406.
- , —, mfr., 192, 300.
- , finish, dull, cellulose ether in, 2418.
- , —, matt, cellulose ether in, 2418.
- , fireproof, mfr., 520.
- Lacquer, fire retardant, ammonium magnesium phosphate for, 479.
- , —, ammonium manganese arsenate for, 479.
- , —, ammonium manganese phosphate for, 479.
- , —, ammonium phosphate, 479.
- , floor, *see* Floor lacquer.
- , gelling, preventing, 2409.
- , glyceryl dilinoleate in mfr., 1590.
- , glyceryl diricinoleate in mfr., 1590.
- , glyceryl monolinoleate in mfr., 1590.
- , glyceryl monoricinoleate in mfr., 1590.
- , graphite and cellulose ether with, 153.
- , guanidine for mfr. of, 282.
- , iridescent, mfr. of, 2392, 2430.
- , iron *monoamyl* phthalate with cellulose acetate as, 613.
- , iron *monobutyl* phthalate with cellulose acetate as, 613.
- , iron-*n*-butyl phthalate with cellulose derivative for, 230.
- , iron *monoethyl* phthalate with cellulose acetate as, 613.
- , iron (ic) laurate for, 1573.
- , iron *monopropyl* phthalate with cellulose acetate as, 613.
- , iron (ic) resinate for, 1573.
- , iron (ic) stearate for, 1573.
- , lead *monoamyl* phthalate with cellulose acetate as, 613.
- , lead *monobutyl* phthalate with cellulose acetate as, 613.
- , lead *monoethyl* phthalate with cellulose acetate as, 613.
- , lead naphthenate for, 1573.
- , lead *monopropyl* phthalate with cellulose acetate as, 613.
- , leather, mfr., 281.
- , lignite in mfr. of, 526.
- , linoxyn for, 1573.
- , linseed oil for, 1572.
- , linseed oil and cellulose acetate, 450.
- , linseed oil and cellulose ether in, 2415.
- , lithopone and cellulose ether with, 153.
- , livering, preventing, 2409.
- , manganese *monoamyl* phthalate with cellulose acetate as, 613.

- Lacquer, manganese *monobutyl* phthalate with cellulose acetate as, 613.
- , manganese *monoethyl* phthalate with cellulose acetate as, 613.
  - , manganese linoleate as binder in, 458.
  - , manganese *monopropyl* phthalate with cellulose acetate as, 613.
  - , manganese resinate as binder in, 458.
  - , mfr. of, 156.
  - , —, cellulose butyrate for, 559.
  - , —, cellulose ether in, 1590.
  - , —, ethylcellulose in, 1590.
  - , metal, mfr., 281.
  - , metallic, mfr. of, 2404.
  - , methylcellulose for, 2414.
  - , methylcellulose, low viscosity, 2406.
  - , mica and cellulose ether with, 153.
  - , milky, mfr. of, 261.
  - , *b-naphthylbiguanide* for mfr. of, 282.
  - , nickel *monoamyl* phthalate with cellulose acetate as, 613.
  - , nickel *monobutyl* phthalate with cellulose acetate as, 613.
  - , nickel *monoethyl* phthalate with cellulose acetate as, 613.
  - , nickel *monopropyl* phthalate with cellulose acetate as, 613.
  - , nitrocellulose, mfr., 645.
  - , novolak, mfr., 1025.
  - , oxyn for, 1573.
  - , phenol-aldehyde condensation product, mfr., 1025.
  - , pigmented, cellulose ether in mfr., 2480.
  - , proofing, 648.
  - , pyroxylin, benzine used for mfr., 1800.
  - , —, benzoline used for mfr., 1800.
  - , —, gasolene used for mfr., 1800.
  - , —, *n*-hexane used for mfr., 1800.
  - , —, ligroin used for mfr., 1800.
  - , —, lythene used for mfr., 1800.
  - , —, petroleum ether used for mfr., 1800.
  - , —, petroleum spirit used for mfr., 1800.
  - , resin, synthetic, for, 1573.
  - , —, *see also Resin lacquer.*
- Lacquer, resorcinol diacetate as component of, 429.
- , rubber containing, 2544.
  - , shoe heel, cellulose acetate for, 2473.
  - , —, cellulose ether for, 2473.
  - , slag-wool and cellulose ether with, 153.
  - , slate and cellulose ether with, 153.
  - , solvent recovery from, 556.
  - , spraying, mfr. of, cellulose ether in, 2418.
  - , styrol and cellulose acetate for, 617.
  - , talc and cellulose ether with, 153.
  - , tautening, 648.
  - , tin linoleate as binder in, 458.
  - , tin resinate as binder in, 458.
  - , toluene for, 1572.
  - , *p*-toluenesulfonamide in mfr., 648.
  - , translucent, mfr. of, 261.
  - , trichlorethylene as component of, 429.
  - , triphenylguanidine for mfr. of, 282.
  - , triphenyl phosphate containing, 645, 1573.
  - , uninflamable, mfr., 670.
  - , urea condensate for, 283.
  - , vinyl acetate and cellulose acetate for, 617.
  - , vinyl acetate with cellulose ether as, 261.
  - , vinyl butyrate with cellulose ether as, 261.
  - , vinyl chloride and cellulose acetate for, 617.
  - , vinyl propionate with cellulose ether as, 261.
  - , white, cellulose ether, mfr., 192.
  - , —, mfr., 192.
  - , white lead and cellulose ether with, 153.
  - , wood, benzylcellulose for, 1580.
  - , xylene for, 1572.
  - , zinc *monoamyl* phthalate with cellulose acetate as, 613.
  - , zinc *monobutyl* phthalate with cellulose acetate as, 613.
  - , zinc *n*-butyl phthalate with cellulose derivative for, 230.
  - , zinc *monoethyl* phthalate with cellulose acetate as, 613.

- Lacquer, zinc monopropyl phthalate with cellulose acetate as, 613.  
—, zinc linoleate as binder in, 458.  
—, zinc resinate as binder in, 458.  
—, zinc stearate in, 192.  
—, *see also Bronzing liquids; Dope; Lakes; Paints; Varnishes.*  
Lacquering, 884.  
Lactic acid, 1692, 1699, 1741, 1891, 1893, 2205, 2319.  
—, acetic acid from, 905.  
—, celluloid solvent, 890.  
—, cellulose acetate delustred by, 616.  
—, cellulose acetate dyed using, 749.  
—, cellulose acetate fabric treated with, 631.  
—, cellulose acetate film containing, 338.  
—, cellulose acetate hydrated by, 355.  
—, cellulose acetate hydrolized by, 779.  
—, cellulose acetate pile fabric softened by, 608.  
—, cellulose acetate printing using, 608.  
—, cellulose ether dyed using, 2299.  
—, cellulose acetate solvent, 738, 890, 1785, 2355.  
—, cellulose acetate stabilizer, 734.  
—, cellulose acetate swelling agent, 728.  
—, cellulose ether softener, 2134, 2153, 2156, 2183.  
—, cellulose ether solvent, 141.  
—, cellulose ether strengthened by, 2131.  
—, cellulose ether swelling agent, 110, 217, 2221.  
—, cellulose formate solvent, 442.  
—, cellulose nitrate solvent, 1893.  
—, cellulose pretreated with, 656, 666.  
—, cellulose treated with, 799, 800.  
—, damask effect produced by, 2340.  
—, delustring with, 217, 283, 286, 2184, 2345.  
—, dispersing agent for, 2214.  
—, dye removed from cellulose acetate by, 825.  
—, ether of, cellulose acetate solvent, 1843.  
—, film made using, 2506.  
Lactic acid, glass, laminated, made using, 2586.  
—, guanin insoluble in, 2614.  
—, mfr., 736, 919.  
—, matt effect produced by, 286.  
—, pattern effects on cellulose acetate by, 774.  
—, polymerized, 1091.  
—, resin from, 1077.  
—, resin from polymerized, 1091.  
—, scoop increased by, 2202.  
—, scoop produced by, 593.  
Lactic acid resin, glass, laminated, made using, 2586.  
Lactic acid-resinous condensates, lacquer mfr. using, 2394.  
Lactic anhydride, 187, 1724.  
*Lactic ether, see Ethyl lactate.*  
Lactic esters, 1942, 1991.  
Lactone, 56.  
Lactose, 2058.  
—, acetate of, 311.  
—, amines solvent for, 2011.  
—, benzyl ether of, 69.  
—, cellulose acetate acetylated in presence of, 1055.  
Lactose octa-acetate, constants of, 462.  
—, *see also Octacetyl-lactose.*  
Lactose tartrate, 1937.  
Lactylamidophenylethyl carbonate, 1907.  
Lactylamidophenylmethyl carbonate, 1907.  
*Lactylphenetidine, see Lactophenin.*  
Laddering, preventing, 105, 766, 2144, 2359.  
Ladders, preventing, in fabric, 2350.  
*Laevo-compounds, see l-Compounds.*  
*Laevoglucosan, see l-Glucosan.*  
*Laevulose, see Fructose.*  
Lakes, dyeing cellulose ether with, 2238.  
—, mfr., 2245.  
—, *see also Pigments.*  
Laminated glass, *see Glass, laminated.*  
Lampblack, 152.  
—, cellulose acetate dyed with, 568.  
—, cigarette tip containing, 2432.  
—, phonograph record of cellulose acetate and, 678.  
—, photographic plate containing, 719.  
—, pigment in cellulose acetate lacquer, 582.



- Lampblack, record, phonograph, made using, 822, 2604.
- Lamps, decorating, cellulose acetate for, 715.
- Lanofuchsine, 1753.
- Lanolin, 2053.
- , airplane coated with, 2484.
- , amines solvent for, 2011.
- , cellulose acetate lacquer containing, 841.
- , cellulose acetate softener, 449.
- , delustring with, 2181.
- , ethylcellulose solvent, 19, 1300.
- , foil made using, 999.
- , starch ether solvent, 1483.
- Lard, cellulose acetate sized using, 696.
- , cellulose ether size, 107.
- , cellulose ether softener, 2122.
- , stencil sheet made using, 2489.
- Laricic acid*, see *Agaricic acid*.
- La Soie de Clairoux, 910.
- Latex, cellulose acetate combined with, 2542.
- , cellulose ether water solubility decreased by, 118.
- , cellulose nitrate combined with, 2542.
- , delustring with, 2187.
- , ethylcellulose water-solubility, diminished by, 1347.
- , film of, 289.
- , laddering (in fabric), preventing by, 261.
- , metallization of, textiles using, 2362.
- , methylcellulose and, 193.
- , methylcellulose combined with, 289, 2545.
- , rubber, benzylcellulose combined with, 2543.
- , —, ethylcellulose combined with, 2543.
- , —, methylcellulose combined with, 2543.
- , slipping (in fabric), preventing by, 261.
- Latex emulsion, methylcellulose insolubilized by, 2421.
- Latex rubber, stencil sheet made using, 2497.
- Laughing gas*, see *Nitrogen monoxide*.
- Laundering, cellulose acetate, 874.
- Laurel oil, 2044.
- Lauric acid, 1655, 1675, 1709, 1715, 2539.
- Lauric acid, glycerol condensed with, 234.
- , pentaerythritol condensed with, 234.
- , sorbitol condensed with, 234.
- , sulfonated, 2215.
- Lauric amide, cellulose ether softener, 2218.
- Laurin, 1655.
- Lauro-diacetylcellulose, mfr., 579.
- Lauro-dinitrocellulose, mfr., 579, 879.
- Lauro-myristic acid, 122.
- Laurylated starch*, see *Starch*, *laurylated*.
- Lauryl-cellulose, dibutyl phthalate as solvent for, 124.
- , dioxane as solvent for, 124.
- , methylcyclohexanone as solvent for, 124.
- , methylglycol acetate as solvent for, 124.
- Lauryl chloride, 154, 1703, 1711, 1713, 1714, 1715, 1716.
- , cellulose esterified in presence of, 709.
- , cork esterified using, 668.
- , esterifying cellulose with, 878.
- , mfr., 1705.
- Lauryl-dinitrate, mfr., 579.
- Lauryl hydrogen sulfate, 1070.
- Lavender oil, 2044.
- Lead, acetic anhydride mfr. using, 632.
- , cellulose acetate gelatin substitute, 39.
- , cellulose acetate lacquer containing, 616.
- , cellulose acetate paint containing, 616, 732.
- , cellulose propionate gelatin substitute, 39.
- , glycols made using, 489.
- , salts of, cellulose treated with, 1137.
- , *white*, see *White lead*.
- Lead acetate, 1094, 2142.
- , basic, solvent, 1796.
- , cellulose ether dyed with eosine and, 164.
- , creping fabric using, 1094.
- , ethylcellulose colored by, 300.
- , sulfur in, cellulose acetate removed by, 929.
- Lead alloy, cellulose acetate lacquer containing, 616.

- Lead alloy, cellulose acetate paint containing, 616.
- Lead amyl phthalate, 1974.
- Lead monoamyl-phthalate, lacquer of cellulose acetate and, 613.
- Lead benzyl phthalate, 1974.
- Lead butyl phthalate, 1974.
- Lead monobutyl-phthalate, lacquer of cellulose acetate and, 613.
- Lead butyl resin, properties, 613.
- Lead carbonate, acetone made using, 772.
- , benzylcellulose stabilizer, 1564.
- , zinc acetate made using, 772.
- Lead chamber crystals, catalyst in cellulose acetating, 390.
- , *see also* *Lead sulfate*; *Nitrosyl sulfate*.
- Lead chamber process, see Chamber process.*
- Lead chloride, benzylcellulose waterproofed by, 2158.
- , benzyl chloride made using, 1293.
- , cellulose acetate saponified by, 805.
- , ethylcellulose waterproofed by, 2158.
- , methylcellulose waterproofed by, 2158.
- Lead chromate, cellulose acetate marking ink containing, 603.
- , deterioration, preventing, 984.
- , ethylcellulose for dispersing, 2479.
- , ink containing, 2329.
- , ink, marking, containing, 2325, 2330.
- , methylcellulose for dispersing, 2479.
- , pigmentation of, 2477.
- , stencil sheet made using, 2491.
- Lead ethyl phthalate, 1974.
- Lead monoethyl-phthalate, lacquer of cellulose acetate and, 613.
- Lead formate, 2142.
- Lead methyl phthalate, 1974.
- Lead molybdate, cellulose ether containing, 144.
- Lead-monoamyl phthalate, lacquer containing, 2396.
- Lead-monobutyl phthalate, lacquer containing, 2396.
- Lead-monoethyl phthalate, lacquer containing, 2396.
- Lead-monopropyl phthalate, lacquer containing, 2396.
- Lead naphthenate, benzylcellulose and as lacquer, 235.
- , lacquer containing, 1573, 2419.
- , lacquer, ship bottom, containing, 2419.
- Lead nitrate, cellulose acetate saponified by, 805.
- , ethylcellulose for dispersing, 2479.
- , methylcellulose for dispersing, 2479.
- Lead oleate, paint, anti-rust, made using, 790.
- Lead oxide, acetic acid mfr. using, 633.
- , benzylcellulose stabilizer, 1564.
- , catalyst in acetic acid mfr., 957.
- , catalyst in aliphatic acid mfr., 1031.
- , cellulose acetate plastic containing, 340.
- , delustring using, 2179.
- Lead palmitate, paint, anti-rust, made using, 790.
- Lead perchlorate, bleaching cellulose by, 1411.
- , catalyst in cellulose acetate mfr., 688.
- , cellulose purified by, 1411.
- Lead phosphate, acetic anhydride mfr. using, 1049.
- Lead phthalate, 1906.
- Lead plate, lacquer for, 343.
- Lead propyl phthalate, 1974.
- Lead monopropyl-phthalate, lacquer of cellulose acetate and, 613.
- Lead resinates, sizing with, 2140.
- Lead ricinate, 1939.
- Lead stannate, cellulose ether containing, 144.
- Lead stearate, paint, anti-rust, made using, 790.
- Lead suboxide, cellulose acetate with as paint, 576.
- , mfr., 576.
- Lead sulfate, 1075.
- , benzylcellulose waterproofed by, 2158.
- , cellulose acetate saponified by, 805.
- , cellulose ester delustrated by, 229.
- , cellulose ether delustrated by, 229, 271.
- , delustring by, 271.
- , ethylcellulose waterproofed by, 2158.

- Lead sulfate, methylcellulose waterproofed by, 2158.  
 —, *see also Galene*.  
 Lead sulfuricinoleate, 1939.  
 Lead tetraethyl, delustring with, 2181.  
 Lead thiocyanate, 2142.  
 —, benzylcellulose waterproofed by, 2158.  
 —, ethylcellulose waterproofed by, 2158.  
 —, methylcellulose waterproofed by, 2158.  
 Lead tungstate, cellulose ether containing, 145.  
 Leaf, decorative, cellulose acetate, mfr., 457.  
 —, *gold, see Gold leaf*.  
 Leather, adhering, cellulose ester for, 211.  
 —, —, cellulose ether for, 211.  
 —, antique, imitation, cellulose ether for, 2465.  
 —, artificial, acetone in mfr., 1880.  
 —, —, benzylcellulose for, 46, 86.  
 —, —, benzylcellulose, matt finish on, 2195.  
 —, —, benzylstarch for, 86.  
 —, —, castor oil in mfr. of, 468.  
 —, —, cellulose acetate for, 568, 655, 1690, 2461.  
 —, —, cellulose ether for, 184, 2461.  
 —, —, cellulose nitrate for, 2461.  
 —, —, dyeing, 459, 488.  
 —, —, ethylcellulose for, 86, 303, 2581.  
 —, —, ethylcellulose, matt finish on, 2195.  
 —, —, ethylstarch for, 86.  
 —, —, mfr. of, 66, 162, 329.  
 —, —, —, cellulose acetate for, 416, 468, 480, 484, 779.  
 —, —, —, cellulose ester for, 223.  
 —, —, —, cellulose ether for, 162, 223.  
 —, —, —, cellulose nitrate in, 480.  
 —, —, —, *b*-phenoxyethyl laurate for, 779.  
 —, —, —, *b*-phenoxyethyl phthalate in, 779.  
 —, —, resorcinol acetate condensate for, 40.  
 —, —, *o*-tricresyl phosphate in mfr. of, 468.  
 —, —, *see also Leather, imitation*.  
 —, benzylcellulose for protecting, 297.  
 Leather, celluloid for coating, 430.  
 —, cellulose acetate coated, 2399.  
 —, cellulose ether emulsion for, 2453.  
 —, *cements, see Cements, leather*.  
 —, coating, 211.  
 —, —, cellulose acetate for, 430, 1035.  
 —, —, cellulose ester for, 245.  
 —, —, cellulose ether for, 245.  
 —, —, cellulose nitrate for, 1035.  
 —, —, ethylcellulose for, 211.  
 —, cork separated from, 529.  
 —, decorating, 2549.  
 —, dressing for, mfr., 868.  
 —, edges, finishing, cellulose acetate for, 459.  
 —, formic acid treated, 701.  
 —, glueing, cellulose ester for, 211.  
 —, —, cellulose ether for, 211.  
 —, imitation, cellulose ester in mfr., 1089.  
 —, —, lacquer for, 2420.  
 —, —, mfr., 715.  
 —, —, —, cellulose ether in, 2463, 2464.  
 —, —, —, ethylcellulose in, 2463, 2464.  
 —, —, *see also Leather, artificial*.  
 —, impregnating, cellulose acetate for, 432.  
 —, lactic acid treated, 701.  
 —, metallization of, 2361.  
 —, oxalic acid treated, 701.  
 —, patent, coating, cellulose acetate for, 463.  
 —, —, —, gelatin for, 463.  
 —, —, mfr., cellulose acetate for, 388.  
 —, preserving, castor oil for, 431.  
 —, —, cellulose acetate for, 431.  
 —, —, phenol for, 431.  
 —, protecting, benzylcellulose for, 297, 1570, 2463.  
 —, —, cellulose ether for, 2462.  
 —, —, ethylcellulose for, 297.  
 —, rubber for coating, 211.  
 —, Spanish, imitation, cellulose ether for, 2465.  
 —, stuffing, 193.  
 —, —, dimethylcellulose in, 192.  
 —, substitute for, bismuth nitrate as, 623.  
 —, —, cellulose acetate as, 440, 623.  
 —, —, Cellit as, 461.  
 —, —, iron (ic) chloride as, 623.  
 —, —, mfr. of, 462, 488.

- Leather, substitute for, mfr. of,  
cellulose acetate in, 481, 760.  
—, —, —, ethylcellulose in, 2636.  
—, —, —, rubber in, 2636.  
—, —, pitch as, 461.  
—, —, tannins as, 623.  
—, suede, imitation, cellulose acetate for mfr., 829.  
—, —, —, mfr., 2462.  
—, tanning, 193.  
—, —, dimethylcellulose in, 193.  
—, —, methylcellulose for, 2456.  
—, tartaric acid treated, 701.  
—, varnishing, cellulose acetate lacquer for, 701.  
Leather cloth, cellulose ester for coating, 245.  
—, cellulose ether for coating, 245.  
Leather industry, cellulose ether in, 2461.  
Leather refuse, wool, artificial, made using, 467.  
Lecithin, cellulose ether softener, 2354.  
—, filaments softened by, 1069.  
—, hide tanned using, 2456.  
—, softener, 2215.  
Lemon, cellulose ether dyed, 2293.  
—, greenish, cellulose ether dyed, 2293, 2295.  
Lemongrass oil, 2044.  
Lens, bi-focal, cellulose acetate in uniting, 924.  
—, uniting, cellulose acetate for, 924.  
*Lepargylic acid*, see *Azelaic acid*.  
*Lepidone*, see *Methyl carbostyryl (g)*.  
*Leucinic acid*, see *Leucic acid*.  
*Leucoalizarin*, see *Anthrarobin*.  
Leuco-1.4-dihydroxyanthraquinone, 1088.  
—, cellulose acetate dyed using, 712.  
—, cellulose ether dyed using, 2281.  
Leucohydroxyanthraquinones, cellulose ether dyed using, 2255.  
Leuco-*a*-hydroxyanthraquinone, cellulose ether dyed using, 2250.  
Leucole Yellow G, cellulose acetate dyed using, 686.  
Leucoline, 2033.  
Leuco-1.4.5.8-tetrahydroxyanthraquinone, cellulose ether dyed using, 2246, 2250.  
1.2.5.8-Leuco-tetrahydroxyanthraquinone, cellulose ether dyed using, 2263.  
1.4.5-Leuco-trihydroxyanthraquinone, cellulose ether dyed using, 2263.  
Leucotrope, 1596, 2243.  
Leucotrope O, cellulose ether dye, 2147.  
Levo-glucosan, 1114, 1132, 1162.  
Levogluconan tripalmitate, mfr., 550.  
Levogluconan tristearate, mfr., 550.  
Levulan, 1195.  
—, polymeric, 911.  
Levulinic acid, cellulose nitrate solvent, 1893.  
Levulinic ester, 1934, 1992.  
Levulose, 2058.  
Levulose acetate, 320, 2058.  
Lichenase, 1163.  
Lichenin, 1161.  
—, acetated, mfr., 550.  
—, acetylated, 1163.  
—, alkylated, cosmetic mfr. using, 87.  
—, —, detergent mfr. using, 87.  
—, —, disinfectant mfr. using, 87.  
—, —, soap mfr. using, 87.  
—, composition, 1162.  
—, degradation of, 910.  
—, ethers of, 44.  
—, ethylated, 1164.  
—, methylation of, 81, 95, 1307.  
—, monomethyl, 95.  
*iso*-Lichenin, 1163.  
Lichenin acetate, 1163.  
Lichenin pentanitrate, purified, 1163.  
Lichenin triacetate, 659, 1163.  
—, amorphous cellulose triacetate, 659, 660.  
—, fibrous cellulose triacetate, 659, 660.  
—, molecular weight of, 600.  
Lichens, 1161.  
Lichen-stearic acid, 1163.  
Lichohexosan, 1163.  
Lichosan, 1162.  
Lichosan acetate, 1163.  
Lichosan triacetate, 1162.  
*Licorice sugar*, see *Sugar, licorice*.  
Lieginge, mfr., 329.  
Light, filter, coumarin for, 63.  
—, —, triphenylmethane in, 63.

- Light, retentiveness of, increasing, by cellulose acetate, 401.  
—, ultraviolet, action of, on fabric, 455.  
*Light acetone oil*, see *Acetone oil, light*.  
*Light ligroin*, see *Canadol*.  
Ligneous acetate, 1177.  
Lignic acid, 1175.  
Lignin, 1115, 1173.  
—, absorption spectra of, 1631.  
—, acetylated, 544, 664, 792, 1176.  
—, acetyl groups of, 395.  
—, benzoylated, 1176.  
—, etherified, mfr., 296.  
—, etherifying, 1625.  
—, ethers of, mfr., 194.  
—, ethylated, mfr., 296.  
—, formaldehyde from, 794.  
—, fusion of, 1175.  
—, mfr., 1176.  
—, methylated, 78, 146, 1309.  
—, nitrated, 1176, 1628.  
—, nitration, see *Nitrolignin*.  
—, nitroacetylated, 1628.  
—, purifying, 189.  
—, see also *Cellulose, Cotton, Paper, Wood*.  
*a-Lignin*, 1631.  
Lignin acetate, 1176.  
—, bromine action on, 794.  
—, composition, 794.  
—, fibrous, mfr., 792, 793, 794.  
—, hydrogen dioxide action on, 794.  
—, mfr., 544.  
—, ozone action on, 794.  
Lignin nitrate, 1176.  
Ligninsulfonate, cellulose ether dyed with, 139.  
Ligninsulfonic acid, 1631.  
—, cellulose acetate dyed using, 717.  
—, cellulose ether dyed using, 2282.  
—, methylation, 1632.  
—, oxidized, cellulose ether dyed using, 2273.  
Lignin toluenesulfonate, 1176.  
Lignin tribenzoate, 1176.  
Lignite, acid from, 461.  
—, aldehydes from, 461.  
—, cellulose ether plastic containing, 150.  
—, cracking of, solvent from, 2547.  
—, lacquer made using, 526.  
*Lignocellulose*, nitrating, see *Nitrolignin*.  
Lignonesulfonic acid, cellulose acetate dyed using, 610.  
Lignoprotein, cellulose acetate combined with, 560.  
—, cellulose sulfite waste for mfr., 472.  
*Lignose*, see *Lignin*.  
—, nitrated, see *Nitrolignin*.  
Lignosulfoacid, cellulose acetate combined with, 560.  
Ligroin, 1800, 1986.  
—, alkalicellulose made in presence of, 59.  
—, cellulose alkalized in presence of, 1430.  
—, cellulose ether precipitant, 2072.  
—, cellulose ether purified by, 1463.  
—, cellulose solvent, 1330.  
—, ethylcellulose, crystalline, solvent, 1336.  
—, ethylcellulose purified by, 269.  
—, *light*, see *Canadol*.  
—, see also *Benzine*.  
Ligroin-alcohol, ethylcellulose xanthanilide solvent, 1644.  
Limb, artificial, mfr.; cellulose acetate for, 423.  
—, —, cellulose ether for, 2645.  
Lime, flowers, artificial, made using, 972.  
—, see also *Calcium oxide*.  
*Lime nitrogen*, see *Calcium cyanamide*.  
*Limestone*, see *Calcium carbonate*.  
Lindenmeyer process, 2146.  
*Lindol*, see *Tricresyl phosphate*.  
Line, fishing, cellulose acetate for, 462.  
—, waterproofing, cellulose acetate for, 462.  
Linen, benzylating, 293.  
—, carbonizing, 743, 951.  
—, cellulose acetate with, printing on, 1000.  
—, etherifying, 1415.  
—, ethylating, 293.  
—, imitation, cellulose acetate in mfr., 996.  
—, immunizing, 907.  
—, impermeable, cellulose acetate for producing, 378.  
—, —, cellulose nitrate for producing, 378.  
—, methylating, 293.  
—, starched, cellulose acetate coated, 383.

- Linen, starched, cellulose butyrate coated, 383.
- , ultra-violet radiation through, 657.
- , washable, cellulose acetate for producing, 378.
- , cellulose nitrate for producing, 378.
- , waterproofing, cellulose acetate for, 393.
- , —, sodium casein for, 393.
- Linings, cellulose acetate fabric, 762.
- Linoleic acid, 1655, 2427.
- , esterifying, 642.
- , glycerol condensed with, 234.
- , lacquer containing, 2427.
- , pentaerythritol condensed with, 234.
- , sorbitol condensed with, 234.
- Linolenic acid, esterifying, 642.
- Linoleum, cellulose acetate in mfr. of, 378.
- , cellulose ether for covering, 2403.
- , cellulose ether for mfr. substitute for, 192.
- Linolic acid, cellulose acetate softener, 1070.
- Linoxyn, benzylcellulose lacquer containing, 193.
- , benzylcellulose plastic with, 171.
- , cellulose ether insolubilized by, 2422.
- , cement, linoleum, containing, 2457.
- , emulsion containing, 2457.
- , ethylcellulose lacquer containing, 193.
- , floor covering made using, 1579.
- , lacquer containing, 1573, 2408, 2419.
- , lacquer, brush, made using, 2418.
- , —, dipping, made using, 2418.
- , —, spraying, made using, 2418.
- , plastic made using, 2576.
- , sizing with, 2141.
- , wall covering made using, 1579.
- Linseed oil, 1665, 2053, 2409.
- , benzyl alcohol solvent for, 1862.
- , benzylcellulose plastifier, 1579.
- , butyl acetate solvent of, 1919.
- , carbon dioxide treatment of, 984.
- Linseed oil, cellulose acetate lacquer containing, 450.
- , cellulose acetate marking ink containing, 603.
- , cellulose acetate precipitant, 516, 624, 627.
- , cellulose acetate softener, 443, 1070.
- , cellulose ester plasticizer, 241.
- , cellulose ether with, 151.
- , cellulose ether film strengthened by, 1379.
- , cellulose ether insolubilized by, 2422.
- , cellulose ether lacquer containing, 188, 2402.
- , cellulose ether plasticizer, 241, 244.
- , cellulose ether precipitant, 68, 2085.
- , cellulose ether solvent, 1841.
- , cellulose ether water solubility decreased by, 118.
- , coating containing, 201.
- , cork substitute containing, 329.
- , delustring with, 2174.
- , emulsion containing, 2457.
- , enamel of cellulose ester and, 249.
- , enamel of cellulose ether and, 249.
- , ethylcellulose combined with, 2410.
- , ethylcellulose solvent, 19, 1300.
- , ethylcellulose strengthened by, 1379.
- , ethylcellulose water-solubility diminished by, 1347.
- , filament sized with, 1071.
- , film of, 289, 2522.
- , floor covering made using, 2437.
- , hydrogen sulfide treatment of, 984.
- , hydrogen treatment of, 984.
- , ink containing, 2329.
- , ink, marking, containing, 2330.
- , lacquer containing, 1572.
- , lacquer, cellulose ether, containing, 2415.
- , —, colored, containing, 2425.
- , methylcellulose combined with, 289.
- , methylcellulose insolubilized by, 2421.
- , nitrated, 2056.
- , oxidized, cellulose acetate softener, 459.

- Linseed oil, plastic made using, 2576, 2579.  
—, raw, amines solvent for, 2011.  
—, rubber combined with, 2410.  
—, sizing with, 2140, 2141.  
—, solvents for, 1849.  
—, starch ether solvent, 1483.  
—, stencil sheet made using, 2491.  
—, sulfur dioxide treatment of, 984.  
—, toluene solvent for, 1805.  
—, varnish of cellulose ester and, 249.  
—, varnish of cellulose ether and, 249.  
Linseed oil foots, cellulose ether insolubilized by, 2422.  
Linters, acetating, 821.  
—, ash in, 1148.  
—, cleaning, 1149.  
—, copper number of, 1148.  
—, dewatering, 1149.  
—, iron in, 1147.  
—, nitrogen in, 1148.  
—, oxidation of, 1149.  
—, phosphorus in, 1148.  
—, pretreating, 821.  
—, purifying, 1149, 1150.  
Lipins, cellulose acetate combined with, 992.  
Liquid, volatile, storage, 990.  
Liquid air, absorbent, peat for, 1165.  
*Liquidamber*, see *Storax*.  
Liquid cuticle, 2388.  
*Liquids*, bronzing, see *Bronzing liquids*.  
—, corrosive, see *Acid*.  
—, inflammable, see *Solvents*.  
*Liquid sulfur dioxide*, see *Sulfur dioxide, liquid*.  
Liquid wax, stencil sheet made using, 2490.  
Lithene, 2567.  
*Lithia*, see *Lithium oxide*.  
*Lithic acid*, see *Uric acid*.  
Lithium acetate, cellulose acetate luster modified by, 609.  
Lithium bromide, cellulose acetate solubility in, 574.  
Lithium carbonate, 1598, 2643.  
Lithium cellulose, 1612.  
Lithium chloride, 1076.  
—, cellophane diffusion in, 913.  
—, cellulose acetate delustred by, 722.  
Lithium chloride, cellulose acetate diffusion in, 913.  
—, cellulose acetate luster modified by, 609.  
—, cellulose ether dyed using, 2279.  
—, delustring using, 2197.  
Lithium chromate, cellulose acetate luster modified by, 609.  
Lithium hydroxide, 1612.  
—, cellulose treated with, 1189.  
Lithium iodide, cellulose acetate solubility in, 574.  
—, starch acetylated in presence, 837.  
Lithium metaphosphate, acetic anhydride made using, 625.  
Lithium nitrate, cellulose acetate luster modified by, 609.  
Lithium oxalate, cellulose acetate luster modified by, 609.  
Lithium rubidium, etherifying cellulose in presence of, 1449.  
Lithium silicate, cellulose ether delustred by, 271.  
—, delustring by, 271.  
Lithium sulfate, cellulose acetate luster modified by, 609.  
Lithium thiocyanate, action on ramie, 985.  
—, starch, acetylating, in presence of, 837.  
Lithol Fast Scarlet, 1581.  
Lithol Fast Scarlet R, 2399.  
—, lacquer containing, 2420.  
—, lacquer, colored, made using, 2417.  
Lithol Fast Scarlet RN, emulsion containing, 2453.  
—, lacquer containing, 2427, 2428.  
Lithol red, 2321.  
Lithol Red 3BN, cellulose ether dyed using, 2262.  
Lithopone, 2284, 1658, 1670.  
—, card, playing, mfr. using, 2609.  
—, cellulose acetate plastic containing, 678.  
—, collar waterproofed by, 566.  
—, emulsion containing, 2453.  
—, ethylcellulose combined with, 2410.  
—, film, opaque, made using, 2526.  
—, lacquer containing, 2428.  
—, lacquer and cellulose ether with, 153.  
—, opacity of, 2177.  
—, plaster and cellulose ether with, 153.

- Lithopone, plastic containing, 983.  
—, playing card containing, 203.  
—, putties and cellulose ether with, 153.  
—, rubber combined with, 2410.  
—, signal, traffic, made using, 1001.  
—, wooden heel made using, 525.  
Lithospruit, 486.  
Livering, cellulose ether, prevention of, 1349.  
—, ethylcellulose, prevention of 1349.  
—, methylcellulose, prevention of 1349.  
—, preventing, 162.  
*Liver of sulfur, see Potassium polysulfide.*  
Logwood, cellulose acetate dyed by, 512, 744.  
—, cellulose ether dyed with, 127, 2298.  
—, dyeing with, 2162.  
—, ethylcellulose dyed with, 127.  
Logwood black, cellulose acetate dyed using, 615.  
Logwood colors, cellulose ether dyed using, 2298.  
Lonarit, 455, 2567.  
—, properties, 587.  
Looms, warp, milanese, 2380, 2381.  
Lubricant, cellulose acetate, mfr., 1068.  
—, cellulose ester containing, 653.  
—, graphite containing, 653.  
—, talc containing, 653.  
Ludigol, cellulose acetate dyed using, 711.  
Lumarith, 2567.  
Luminescent composition, cellulose ester in mfr., 134.  
—, cellulose ether in mfr., 134.  
Luminous powder, filament treatment with, 2363.  
Luster, cellulose ester, modifying, 937.  
—, decreasing, 2167.  
—, increasing, 303, 2167, 2168.  
—, modifying, 2166.  
—, preserving, 2167, 2170.  
—, *subdued, see Deluster.*  
Luster effect, printed, producing, 2340.  
Lustron, bleaching, 689.  
—, dyeing, 517, 689.  
—, finishing, 689.  
Lutidine, 2033.  
Lycopodium (club moss), stencil sheet made using, 2489.  
Lysol, amines solvent for, 2011.  
Lythene, 1800.  
—, *see also Benzine.*  
Lyxose, 277, 1499.  
Mace oil, 1964.  
—, cellulose acetate solvent, 1818, 1819.  
Magenta, benzylcellulose dyed by, 62.  
—, cellulose acetate dyed, 493, 612.  
—, cellulose acetate dyestuff, 989.  
—, cellulose ester dyed by, 62.  
—, cellulose ether dyed using, 2225, 2272, 2287.  
—, ethylcellulose dyed by, 62.  
—, methylcellulose dyed by, 62.  
—, *see also Fuchsine.*  
*Magnesia, see Magnesium oxide.*  
Magnesite, molding material containing, 614.  
—, plastic made using, 2559.  
Magnesium, dichlorethylene made using, 550.  
—, water combined with, 111.  
Magnesium abietate, sizing with, 2141.  
Magnesium acetate, 324.  
—, acetating with, 324.  
—, acetic anhydride made using, 735.  
—, catalyst in acetic anhydride mfr., 843.  
—, cellulose acetate luster modified by, 609.  
—, cellulose acetate stabilized using, 1056.  
Magnesium acetobutyrate, 328.  
Magnesium alloys, coating, 2392.  
Magnesium ammonium phosphate, 1869, 2059.  
Magnesium *a*-amylose-phosphate, 1154.  
Magnesium *a*-amylose-silicate, 1154.  
Magnesium antimonates, catalyst, 864.  
Magnesium arsenate, catalyst, 864.  
Magnesium bisulfate, alphacellulose made using, 503.  
Magnesium borate, catalyst, 866.  
Magnesium butyrate, 328, 1700.  
Magnesium carbonate, benzylcellulose treated with, 1562.



- Magnesium carbonate, card, playing, mfr. using, 2609.  
 —, cellulose acetate saponified by, 501.  
 —, cellulose ether delustrated by, 271.  
 —, cellulose ether fireproofed by, 107.  
 —, delustring by, 271.  
 —, fire-retardant, 1374.  
 Magnesium cellulose bromide, mfr., 516.  
 Magnesium chlorate, cellulose acetate dyed using, 531.  
 —, cellulose ether dyeing assistant, 2222.  
 Magnesium chloride, 109, 1076, 1684, 2059, 2236, 2242.  
 —, benzylating in presence of, 1591.  
 —, benzylcellulose treated with, 1561.  
 —, catalyst in ethyl chloride mfr., 1268.  
 —, cellulose, delustring of by, 722.  
 —, cellulose acetate dyed in presence of, 510, 511, 622.  
 —, cellulose acetate film containing, 721.  
 —, cellulose acetate lacquer containing, 599.  
 —, cellulose acetate luster modified by, 609.  
 —, cellulose acetate preserved by, 714.  
 —, cellulose acetate saponified by, 501, 805.  
 —, cellulose ether dyed using, 2223, 2271, 2300.  
 —, cellulose etherified in presence of, 1441.  
 —, crepe effect by using, 2333.  
 —, delustring using, 2197.  
 —, dyeing assistants, 2223.  
 —, dyeing in presence of, 2270.  
 —, dyestuff affinity increased, 2223.  
 —, fabric coated using, 2485.  
 —, fabric tautness induced by, 460.  
 —, filaments softened by, 1069.  
 —, hydrolyzing cellulose acetate with, 421.  
 —, inflammability of cellulose acetate reduced by, 550.  
 —, luster of cellulose acetate preserved by, 632.  
 —, luster preserved by, 2172, 2173.  
 —, phosphorescence produced by, 1372.  
 —, viscosity reduced by, 541.  
 —, wetting agent 2207  
 Magnesium chromate, cellulose acetate luster modified by, 609.  
 Magnesium citrate, cellulose nitrate solvent, 1893.  
 Magnesium dihydrogen-*o*-antimonate, benzylcellulose treated with, 1561.  
 —, cellulose acetate inflammability reducer, 92.  
 —, cellulose ether inflammability reducer, 92.  
 —, cellulose nitrate inflammability reducer, 92.  
 Magnesium ethyl bromide, magnesium cellulose bromide made from, 516.  
*Magnesium hexahydrobenzoate, see Magnesium naphthenate.*  
 Magnesium hydride, cellulose treated with, 1431.  
 —, water combined with, 111.  
 Magnesium hydroxybromide, 516.  
 Magnesium lactate, cellulose ether stabilizer, 132.  
 —, cellulose nitrate solvent, 1893.  
 —, cellulose nitrate stabilizer, 132.  
 Magnesium levulinate, cellulose nitrate solvent, 1893.  
 Magnesium methoxyacetate, 864.  
 Magnesium methyl iodide, 1108.  
 Magnesium naphthenate, 1965.  
 —, benzene solvent of, 107.  
 —, silk sized using, 259.  
 —, size containing, 2309.  
 —, sizing with, 107, 2141.  
 —, stencil sheet made using, 976, 2490.  
 —, toluene solvent of, 107.  
 —, turpentine oil solvent of, 107.  
 —, xylene solvent of, 107.  
 Magnesium nitrate, cellulose acetate dyed using, 531.  
 —, cellulose acetate luster modified by, 609.  
 —, cellulose acetate saponified by, 805.  
 —, cellulose ether coagulant, 1589, 2086.  
 —, cellulose ether dyeing assistant, 2222.  
 —, cellulose formate solvent, 463.  
 Magnesium oleate, benzylcellulose treated with, 1562.  
 —, caoutchouc and for varnish, 249.  
 —, cellulose ester and for varnish, 249.

- Magnesium oleate, cellulose ester
  - viscosity reduced by, 1365, 2093.
- , cellulose ether size, 107.
- , cellulose ether and for varnish, 249.
- , silk sized using, 259.
- , sized containing, 2309.
- Magnesium oxalate, cellulose acetate luster modified by, 609.
- , cellulose nitrate solvent, 1893.
- Magnesium oxide, building material made using, 485.
- , cellulose acetate saponified by, 501.
- , cellulose treated with, 1431.
- , delustring with, 2175.
- , flowers, artificial, made using, 972.
- Magnesium perchlorate, 1711, 1729, 1735, 1740.
- , bleaching cellulose by, 1411.
- , catalyst in cellulose acetate mfr., 688.
- , catalyst in cellulose esterification, 622.
- , cellulose, esterification of using, 758.
- , cellulose aceto-esters made using, 806.
- , cellulose purified by, 1411.
- Magnesium perchlorate hydrate, cellulose mixed ester made using, 942.
- Magnesium perchlorate trihydrate, 1738.
- , catalyst in cellulose esterification, 622.
- Magnesium phosphate, catalyst, 866.
- , loading with, 2151.
- Magnesium resinate, 1972, 1947, 2105.
- , benzene solvent of, 107.
- , caoutchouc and for varnish, 249.
- , cellulose ester and for varnish, 249.
- , cellulose ether and for varnish, 249.
- , size containing, 2309.
- , sizing with, 107, 2141.
- , toluene solvent of, 107.
- , turpentine oil solvent of, 107.
- , xylene solvent of, 107.
- Magnesium ricinate, 1939.
- Magnesium silicate, catalyst, 866.
- , cellulose ether delustred by, 271.
- , delustring by, 271.
- Magnesium silicofluoride, benzyl-cellulose treated with, 1561.
- , delustring using, 2179.
- Magnesium stearate, 984.
- , silk sized using, 259.
- Magnesium sulfate, acetic acid recovered using, 730.
- , benzylcellulose treated with, 1561.
- , cellulose acetate lacquer containing, 599.
- , cellulose acetate luster conserved by, 733.
- , cellulose acetate luster modified by, 609.
- , cellulose acetate preserved by, 714.
- , cellulose acetate saponified by, 805.
- , cellulose acetate shrinkage prevented by, 804.
- , cellulose acetate stabilized using, 1056.
- , loading with, 2151.
- , luster of cellulose acetate preserved by, 632.
- , luster preserved by, 2172, 2173.
- Magnesium sulfide, phosphorescence produced by, 1372.
- Magnesium sulforicinate, 1939.
- Magnesium stearate, size containing, 2309.
- Magnesium tartrate, cellulose nitrate solvent, 1893.
- Magnesium tungstate, acetic anhydride made using, 754, 769.
- Magnet core, cellulose acetate for, 645.
- , iron-nickel alloy for, 645.
- Mahogany, cellulose acetate lubricated by, 1018.
- , filling pores of, 1082.
- , gaboon, filling pores of, 1082.
- Mahogany sulfonate, cellulose ether softener, 2218.
- , wetting agent, 2207.
- Maize starch, see Starch, corn.*
- Maizin, 2056.
- Malachite green, 885, 886, 944, 2340.
- , benzylcellulose dyed by, 62, 123, 2230.
- , cellulose acetate dyed using, 665, 672, 705, 2235.
- , cellulose ester dyed by, 62.
- , cellulose ester treated with, 275.

- Malachite green**, cellulose ether dyed using, 2225, 2296.  
—, cellulose ether treated with, 275.  
—, 2,4-dimethyl derivatives of, cellulose ether dyed using, 2296.  
—, —, dyeing with, 161.  
—, ethylcellulose dyed by, 62.  
—, methylcellulose dyed by, 62.  
—, silk dyed using, 665.  
—, wetting agent, 2208.  
**Malaga red**, cellulose acetate dyed, 1034.  
**Malayan camphor**, *see Borneol*.  
**Maleic acid**, 1591, 1950, 2426.  
—, amines solvent for, 2011.  
—, benzylcellulose lacquer with, 234.  
—, cellulose acetate hydrolyzed in presence of, 1056.  
—, glycerol condensed with, 234.  
—, lacquer containing, 2428.  
—, pentaerythritol condensed with, 234.  
—, sorbitol condensed with, 234.  
**Maleic acid hydrazide dichloride**, cellulose ether from, alkalicellulose and, 298.  
**Maleic anhydride**, cellulose, treatment of with, 985.  
—, cellulose acetate hydrolyzed in presence of, 1056.  
—, cellulose maleate made using, 1040.  
—, cellulose treated with, 2314.  
—, cotton immunized by, 907.  
—, glass, laminated, made using, 2586, 2590.  
—, linen immunized by, 907.  
—, rayon immunized by, 907.  
**Maleic esters**, 1950.  
**Maleinic acid**, *see Maleic acid*.  
**Malic acid**, 1741.  
—, amines solvent for, 2011.  
—, cellulose ether, jelling of, prevented by, 1349.  
—, —, livering of, prevented by, 1349.  
—, —, precipitating of, prevented by, 1349.  
—, ethylcellulose jelling of, prevented by, 1349.  
—, —, livering of, prevented by, 1349.  
—, —, precipitation of, prevented by, 1349.  
—, film made using, 2506.  
—, jelling prevented by, 2410.  
**Malic acid**, livering in cellulose ether prevented by, 162.  
—, livering prevented by, 2410.  
—, methylcellulose, jelling of, prevented by, 1349.  
—, —, livering of, prevented by, 1349.  
—, —, precipitating of, prevented by, 1349.  
**Malic esters**, 1949.  
**Malonic acid**, amines solvent for, 2011.  
**Malonic esters**, 1948.  
**Malonic ether**, *see Ethyl malonate*.  
**Malonyl urea**, *see Barbituric acid*.  
**Malleable glass**, *see Glass, laminated*.  
**Mallow family**, *see Malvaceae*.  
**Maltodextrin**, 2055.  
**Maltose**, 1102, 1106, 1153, 1509.  
—, acetylation of, 441.  
—, methylated, 42.  
**Maltose acetate**, dialyzing, 739.  
**Maltose hepta-acetate**, 885.  
**Maltose octoacetate**, *see Octacetyl-maltose*.  
**b-Maltose octo-acetate**, constants of, 462.  
**Maltoside**, methylated, 42.  
**Malt sugar**, *see Maltose*.  
**Mandelic acid**, film made using, 2506.  
**Mandelic esters**, 1966.  
**Manganese**, catalyst, 865.  
—, gun stock made using, 588.  
—, tobacco pipe made using, 588.  
**Manganese acetate**, 1046.  
—, acetic acid mfr. using, 563.  
—, catalyst, 802.  
—, catalyst in cellulose acetate mfr., 1003.  
**Manganese amyl phthalate**, 1974.  
**Manganese borate**, catalyst, 866.  
**Manganese bromide**, catalyst in cellulose acetate mfr, 1031.  
—, cellulose, pretreatment of with, 866.  
—, cellulose acetate made using, 773.  
**Manganese butyl phthalate**, 1974.  
**Manganese chloride**, catalyst in cellulose acetate mfr., 958, 1031.  
—, catalyst in cellulose acetylating, 1062.  
—, catalyst in ethyl chloride mfr., 1268.

- Manganese chloride, cellulose, pretreatment of with, 866.  
 —, cellulose acetate made using, 773.  
 Manganese ethyl phthalate, 1974.  
 Manganese iodide, catalyst in cellulose acetate mfr., 1031.  
 —, cellulose, pretreatment of with, 866.  
 —, cellulose acetate made using, 773.  
 Manganese linoleate, 1097.  
 —, lacquer binder, 458.  
 Manganese methyl phthalate, 1974.  
 Manganese-monoamyl phthalate, lacquer containing, 2396.  
 —, lacquer of cellulose acetate and, 613.  
 Manganese-monobutyl phthalate, lacquer containing, 2396.  
 —, lacquer of cellulose acetate and, 613.  
 Manganese-monoethyl phthalate, lacquer containing, 2396.  
 —, lacquer of cellulose acetate and, 613.  
 Manganese-monopropyl phthalate, lacquer containing, 2396.  
 —, lacquer of cellulose acetate and, 613.  
 Manganese oxide, catalyst in acetaldehyde mfr., 781.  
 —, catalyst in acetic acid, mfr., 791, 957.  
 Manganese perchlorate, bleaching cellulose by, 1411.  
 —, catalyst in cellulose acetate mfr., 688.  
 —, cellulose purified by, 1411.  
 Manganese phosphate, catalyst, 866.  
 Manganese propyl phthalate, 1974.  
 Manganese resinate, 1972, 2410.  
 —, lacquer binder, 458.  
 —, sizing with, 2140.  
 Manganese ricinate, 1939.  
 Manganese silicate, catalyst, 866.  
 Manganese sulfate, catalyst in cellulose acetate mfr., 1003.  
 Manganese sulfuricinate, 1939.  
*Manganic*, see *Manganese (ic)*.  
*Manganous*, see *Manganese (ous)*.  
 Manganous carbonate, acetic anhydride made using, 596.  
 Manganous nitrate, cellulose ether colored using, 2476.  
 Manganous sulfide, cellulose ether colored using, 2476.  
 Manila, 2042.  
 —, benzylcellulose and, 175, 178.  
 —, cellulose ether varnish with, 135.  
 —, constants of, 2056.  
 —, delustring with, 2187.  
 —, ethylcellulose and, 175, 178.  
 —, methylcellulose and, 175, 178.  
 Manila ester, constants of, 2056.  
 Mannan, 1156, 1195, 1456.  
 —, polymeric, 911.  
 Mannan acetate, 1966.  
 —, stencil made using, 663.  
 —, stencil sheet made using, 663, 801, 2490.  
*iso*-Mannide dioleate, 1503.  
 Mannitan, 314.  
 Mannitan dioleate, 1503.  
 Mannite, 314, 1874.  
 —, acetate of, 311.  
 —, acetalization of, 309.  
 —, amines solvent for, 2011.  
 Mannite chlorhydrin, cellulose etherified by, 1401.  
 Mannitetriformal, 1857, 1886, 1894.  
 Mannitol, 203, 842, 1858.  
 —, monomethyl, 95.  
 —, methylation of, 95, 1307.  
 Mannitol acid phthalate, cellulose ester plasticizer, 203.  
 —, cellulose ether plasticizer, 203.  
 Mannitol 9.10-dihydroxystearate, 1940.  
 Mannitol distearate, 1940.  
 Mannitol hexacetate, 842.  
*Mannitol hexahydrobenzoate*, see *Mannitol naphthenate*.  
 Mannitol hexastearate, 1940.  
 Mannitol linoleate, 1966.  
 Mannitolmonoacetone, 1504.  
 Mannitol monostearate, 1940.  
 Mannitol montanate, 1966.  
 Mannitol naphthenate, 1966.  
*Mannitol nitrate*, see *Nitro-mannitol*.  
 Mannitol oleate, 1966.  
 Mannitol orthosilicate, benzylcellulose treated with, 1562.  
 Mannitol oxalate, cellulose ester plasticizer, 203.  
 —, cellulose ether plasticizer, 203.  
 Mannitol phthalate, cellulose ester plasticizer, 203.  
 —, cellulose ether plasticizer, 203.  
 Mannitol ricinoleate, 1966.

- Mannitol stearate**, 1966.  
**Mannitol succinate**, cellulose ester plasticizer, 203.  
 —, cellulose ether plasticizer, 203.  
**Mannitol tetrastearate**, 1940.  
**Mannitol tristearate**, 1940.  
*Mannol*, see *Manol*.  
**Mannose**, 1195.  
 —, cellulose acetate acetylated in presence of, 1055.  
 *$\alpha$ -Mannose*, 1102.  
 *$\beta$ -Mannose*, 1102.  
**Mannosediacetone**, 1503.  
**Mannose penta-acetate**, constants of, 462.  
 —, mfr., 686.  
 *$\alpha$ -Mannoside*, 1102.  
**Manol**, 1872, 1923, 1925.  
 —, benzylcellulose plastified by, 102, 1578.  
 —, camphor substitute, 2051.  
 —, cellulose acetate plasticizer, 375, 398.  
 —, cellulose acetate solvent, 699.  
 —, ethylcellulose plastified by, 102.  
 —, methylcellulose plastified by, 102.  
 —, see also *Ethyl acetanilid*.  
*Mantles*, see *Filaments*.  
**Manuscripts**, photographing, 1097.  
*Maranta*, see *Arrow root*.  
**Marblene**, 2567.  
**Marbloid**, 2567.  
**Marigold**, cellulose ester dyed, 219.  
 —, cellulose ether dyed, 219, 2269.  
**Marine blue BN**, cellulose ether dyed using, 2289.  
**Marjoram oil**, 2044.  
**Marking**, protective, mfr., cellulose acetate for, 685.  
**Maroon**, cellulose acetate dyed, 546.  
**Marquette fabric**, cellulose acetate, 630.  
*Marsh gas*, see *Methane*.  
**Martinique brown**, cellulose acetate dyed, 1034.  
**Martius yellow**, cellulose acetate dyed using, 665, 2235.  
 —, silk dyed using, 665.  
**Mask**, cellulose acetate for, 464.  
**Mass**, luminous, mfr., 477.  
 —, —, zinc sulfate in, 477.  
**Mastic**, 1911, 1921, 2044, 2053.  
 —, acetone as solvent of, 1885.  
 —, amyl furoate solvent for, 1997.  
 —, benzyl acetate solvent for, 1928.  
 —, benzyl alcohol solvent for, 1862.  
**Mastic**, butyl acetate solvent of, 1919.  
 —, butyl furoate solvent for, 1997.  
 —, cellulose ether size, 107.  
 —, constants of, 2056.  
 —, cyclohexanyl acetate solvent of, 1990.  
 —, decorative leaf made using, 457.  
 —, dichlorethane-solvent for, 1816.  
 —, dichlorethylene solvent for, 1821.  
 —, dioxane solvent for, 1876.  
 —, ethyl furoate solvent for, 1997.  
 —, ethylglycol solvent for, 1851.  
 —, ethyleneglycol monoethyl ether solvent for, 1851.  
 —, furfural solvent for, 1997.  
 —, furfuryl alcohol solvent for, 1997.  
 —, glass, laminated, made using, 691, 2587.  
 —, methyl furoate solvent for, 1997.  
 —, pentachlorethane solvent for, 1818.  
 —, *n*-propyl acetate solvent of, 1917.  
 —, propyl furoate solvent for, 1997.  
 —, sizing with, 2141.  
 —, solvents for, 1849.  
 —, tetrahydrofurfuryl alcohol solvent for, 1997.  
 —, toluene solvent for, 1805.  
 —, trichlorethylene solvent for, 1825.  
 —, see also *Resins*.  
**Masuron**, 2567.  
**Match**, mfr. of, starch acetate for, 404, 1493.  
**Match head**, phosphorous sulfide in mfr., 484.  
 —, potassium chlorate in mfr., 484.  
 —, starch, acetated, in mfr., 484.  
**Material**, insulating, benzylcellulose for, 2441.  
 —, —, ethylcellulose for, 2441.  
**Matrices**, cellulose acetate in mfr. of, 2558.  
 —, stereotype, mfr., 1091.  
**Matrix**, cellulose acetate as, 592.  
**Matt effects**, producing, 2352.  
**Maura**, stencil sheet made using, 2491.  
*M. D. cordite*, see *Cordite*, *M. D.*  
**Meal**, ethylcellulose with, 1334.  
**Meat product**, cellulose ester film for encasing, 277.  
 —, cellulose ether film for encasing, 277.

- Medicinal preparation, cellulose acetate in, 403.  
 Medicinal product, cellulose acetate in mfr. of, 479.  
 Meerschäum, gun stock made using, 588.  
 —, tobacco pipe made using, 588.  
*M. E. K.*, see *Methyl ethyl ketone*.  
*Melampyrit*, see also *Dulcit*.  
 Melissa oil, 1962, 2044.  
*Mellic acid*, see *Mellitic acid*.  
 Mellitic acid, methyl chloride in mfr. of, 1253.  
*Mellitose*, see *Raffinose*.  
 Membrane, cellulose acetate, mfr., 524.  
 —, collodin, see *Collodin*, membrane.  
 —, collodion, dialysis by, 2458.  
 —, —, osmosis by, 2458.  
 —, mfr. of, casein for, 992.  
 —, —, cellulose acetate for, 992.  
 —, —, gelatin for, 992.  
 —, —, gliadin for, 992.  
 —, —, glucides for, 992.  
 —, —, glycerides for, 993.  
 —, —, glycogen for, 993.  
 —, —, gums for, 993.  
 —, —, lipins for, 992.  
 —, —, ovalbumin for, 992.  
 —, —, proteins for, 992.  
 —, —, serum-protein for, 992.  
 —, porous, cellulose acetate mfr., 447.  
*Menaphthoxylic acid*, see *a-Naphthoic acid*.  
*Mentha crispa*, see *Peppermint*.  
*Mentha pulegium*, see *Peppermint*.  
 Menthol, crystal effects produced by, 2430.  
 —, paper coated with cellulose nitrate and, 645.  
*d*-Menthol, amines solvent for, 2011.  
 Menthyl acetylsalicylate, 1965.  
 Menthyl borate, 1938.  
 Menthylcellulose oxalate, mfr., 870.  
 Menthyl chloride, cellulose esterified using, 870.  
 Menthyl ethoxyacetate, 1938.  
 Menthyl-oxalyl chloride, mfr., 870.  
 Menthyl salicylate, 1938, 1965.  
 Menthyl *iso*-valerate, 1938.  
 Mercaptan, 1330.  
 —, see also *Ethyl mercaptan*.  
 Mercaptobenzothiazole, benzylcellulose stazilizer, 1565.  
 —, cellulose ether softener, 2217.  
 —, ethylcellulose stabilizer, 1565.  
 —, stabilizer, 1565.  
 Mercaptols, 2002.  
 Mercerization, heat of, 1187.  
*Mercurized cellulose*, see *Cellulose hydrate*.  
*Mercuric*, see *Mercury (ic)*.  
 Mercuric acetate, amines solvent for, 2011.  
 Mercuric chloride, 2447.  
 Mercuric cyanide, amines solvent for, 2011.  
 Mercuric fluoborate, acetals made using, 998.  
 Mercuric oxide, acetaldehyde made using, 572, 781.  
 —, ethylidene diacetate made using, 855.  
 —, vinyl acetate made using, 855.  
 Mercuric sulfate, acetaldehyde made using, 578, 582.  
 —, catalyst in acetaldehyde mfr., 1002.  
*Mercurous*, see *Mercury (ous)*.  
 Mercurous chloride, card, playing, mfr. using, 2609.  
 —, pearl essence made using, 2620.  
 Mercurous chloride-stannous chloride, pearl essence made using, 2620.  
 Mercury, acetic acid mfr. in presence of, 444.  
 —, acetylene oxidized by, 454.  
 —, colloidal, mfr., 2447.  
 Mercury amyl phthalate, 1974.  
 Mercury benzenesulfonate, ethylidene diacetate made using, 483.  
*Mercury bichloride*, see *Mercury (ic) chloride*.  
 Mercury butyl phthalate, 1974.  
 Mercury camphorsulfonate, ethylidene diacetate made using, 483.  
 Mercury cellulose xanthacetate, 1762.  
 Mercury (ic) chloride, cellulose solvent, 1137.  
 Mercury (ous) chloride, card containing, 292.  
 —, playing card containing, 292.  
 Mercury diacetate, mfr., 563.  
 Mercury diphenyl, amines solvent for, 2011.  
 Mercury-*di-p*-tolyl, amines solvent for, 2011.

- Mercury emulsion, mfr. of, cellulose ether for, 86.  
 Mercury ethyl phthalate, 1974.  
*Mercury fulminate*, see *Fulminate*.  
 Mercury methyl phthalate, 1974.  
 Mercury molybdate, cellulose ether containing, 144.  
 Mercury naphthalene sulfonate, 1922.  
 —, ethylidene diacetate made using, 483.  
 Mercury phosphate, acetaldehyde made using, 568.  
 —, catalyst in acetaldehyde mfr., 781.  
 —, catalyst in acetic acid mfr., 781.  
 Mercury propyl phthalate, 1974.  
 Mercury selenide, mfr., 2447.  
 Mercury stannate, cellulose ether containing, 144.  
 Mercury sulfate, acetaldehyde made using, 1034.  
 —, catalyst in acetaldehyde mfr., 781.  
 —, catalyst in acetic acid mfr., 781.  
 Mercury sulfonate, ethylidene diacetate made using, 483.  
 Mercury telluride, mfr., 2447.  
 Mercury tungstate, cellulose ether containing, 145.  
 Mercury vanadate, catalyst in acetaldehyde mfr., 781.  
 —, catalyst in acetic acid mfr., 781.  
 Mesitylene, 1806.  
 —, acetic acid concentrated using, 719.  
 —, bromo, cellulose ether inflammability reduced by, 182.  
 —, cellulose acetate precipitated by, 1043.  
 —, cellulose ether dyeing using, 2238.  
 —, cellulose ether solvent, 2227.  
 —, solubilizing agent, 2213, 2219.  
*Mesitylinic acid (1.3.5)*, see *Dimethyl benzoic acid (3.5)*.  
 Mesityl oxide, 1677, 1846, 1885, 1887.  
 —, acetic acid solvent, 905.  
 —, cellulose acetate lacquer containing, 513.  
 —, cellulose acetate solvent, 513, 801.  
 —, cellulose acetate solvent mixture containing, 574.  
 Mesityl oxide, ethylcellulose solvent, 95.  
 —, film made using, 2514.  
 —, mfr., 1886.  
 —, triphenyl phosphate and as solvent, 1902.  
*Mesotartaric acid*, see *Tartaric acid (i)*.  
*Mesoxalylurea*, see *Alloxan*.  
*Metacetone*, see *Diethylketone*.  
*Metacetic acid*, see *Propionic acid*.  
 Metachloraniline, cellulose ether dyed with *p*-cresol and, 114.  
*Meta-compounds*, see *m-Compounds*.  
*Metaformaldehyde*, see *Trioxymethylene*.  
 Metal, acetic acid action on, 1043.  
 —, cellulose acetate coated, 699.  
 —, cellulose monoacetate-distearate for coating, 790.  
 —, cellulose dilaurate for coating, 790.  
 —, cellulose ether impregnated with, 2479.  
 —, cementing, 238.  
 —, coating of, 145, 211.  
 —, —, cellulose acetate for, 489, 693, 702.  
 —, —, cellulose acetate lacquer for, 1080.  
 —, —, cellulose ester for, 260.  
 —, —, cellulose ether for, 260.  
 —, —, cresylic acid for, 489.  
 —, —, ethylcellulose for, 211.  
 —, —, gutta-percha for, 790.  
 —, —, resin for, 790.  
 —, —, rubber for, 790.  
 —, corrosion, preventing, 2419.  
 —, designs on, cellulose ether for, 191.  
 —, ethylcellulose for cementing, 238.  
 —, filling, cellulose ester for, 260.  
 —, —, cellulose ether for, 260.  
 —, glycerol with ethylcellulose for coating, 145.  
 —, graining, cellulose ether for, 191.  
 —, lacquer for, cellulose ester for, 188.  
 —, —, cellulose ether as, 188.  
 —, phthalic acid with ethylcellulose for coating, 145.  
 —, polishing, cellulose acetate for, 693.

- Metal, printing on, 2329.
- , protecting, cellulose acetate for, 589.
- , rubber attaching to, 1098.
- , rubber for coating, 211.
- Metalddehyde, 1865.
- , mfr., 687.
- , solid fuel, 583.
- Metal foil, cloth fireproofed with, 441.
- , wood fireproofed with, 441.
- Metallic effect, producing, 141.
- Metallic fabrics, *see* *Fabrics, metal-lized.*
- Metallodion, 1751.
- Metal oxide, loading with, 2150.
- Metanilic acid, cellulose ether dyed using, 2250.
- Metanil yellow, 2321, 2640.
- Metanitrophenol, *see* *Nitrophenol (meta).*
- Metaphenylenediamine, *see* *m-Phenylenediamine.*
- Metaphosphoric acid, acetic anhy-dride made using, 967.
- , catalyst in cellulose acetation, 339.
- , cellulose acetate stabilizer, 967.
- , cellulose etherification with, 1432.
- , cellulose nitrate solvent, 692.
- , methyl acetate saponified by, 604.
- , *see also* *Phosphoric acid.*
- Metastrol, cellulose ester com-bined with, 208.
- , cellulose ether combined with, 208.
- , polymerized, 208.
- Methaform, benzylcellulose solvent, 1567.
- , *see also* *Chloretone.*
- Methane, acetone made using, 772.
- , chlorinated, internal pressure of, 529.
- , production of, peat for, 1165.
- , zinc acetate made using, 772.
- Methane amide, *see* *Formamide.*
- Methane carboxylic acid, *see* *Acetic acid.*
- Methanedicarboxylic acid, *see* *Ma-lonic acid.*
- Methane ether, anaesthetic proper-ties of, 504.
- Methane-2-on, 1890.
- Methanesulfonic acid, 1700, 1701, 2034.
- Methanesulfonic acid, catalyst in cellulose acetate mfr., 1011.
- , cellulose, pretreatment of with, 905.
- , cellulose butyrate made from, 905.
- , cellulose isobutyrate made from, 905.
- Methanol, see Methyl alcohol.*
- Methene-3-ketone, 1890.
- Metheneprotocatechuic acid, see Piperonylic acid.*
- Methenyl tribromide, see Bromo-form.*
- Methenyltrichloramidine, 2019.
- Methenyltriethyl ether, see Ethyl o-formate.*
- Methionie acid, 1261.
- Methol, 1257.
- Methone, see Acetone; Methyl ace-tate.*
- p-Methoxy-acet-aminophenol, see Methacetin.*
- Methoxyacetic acid, 1693, 1694.
- , anhydrides from, 1030.
- , mfr., 186.
- , methoxyacetic anhydride mfr. from, 1049.
- Methoxyacetic anhydride, 1693, 1694.
- , mfr., 186, 864, 1049.
- Methoxyacetophenone, 1888.
- Methoxyacetyl-borneol, 2048.
- Methoxyacetyl-santalol, 2048.
- Methoxyaminobenzene, 2019.
- Methoxyaniline, 2019.
- Methoxyanthraquinone, aminoan-thraquinone, hydroxyalkylated, made using, 676.
- , cellulose ether dyed using, 2246.
- p-Methoxybenzaldehyde, see Anisic aldehyde.*
- p-Methoxybenzeneazo-1-phenyl-3-methyl-5-pyrazolone, cellulose ether dyed using, 2285.*
- Methoxy-benzyl alcohol, camphor substitute, 2051.
- , cellulose acetate plastifier, 452.
- 1-Methoxy-2-chlor-4-aminobenzene, cellulose acetate dyed using, 676.
- 4'-Methoxy-diphenylamine-4-diazo-nium chloride, cellulose ester dyed using, 238, 284.
- , cellulose ether dyed using, 238, 284, 2263.
- dl-5-Methoxyfructose, 1505.*



- Methoxyl, determination of, 26, 2656.
- Methoxyl diacetyl-*o,o'*-dimethyl-*p*-cresol *p*-toluenesulfonate, cellulose ether plastifier, 67.
- Methoxyl-*o,o'*-dimethylol-*p*-cresol, cellulose ether plastifier, 67.
- Methoxyl salicylate, *see* Mesotan.
- Methoxy-5-methylfurfuraldehyde, 1320.
- Methoxymethyl glycol-lignin, mfr., 1629.
- 1-Methoxy-naphthalene, camphor substitute, 2051.
- 2-Methoxy-naphthalene, camphor substitute, 2051.
- Methoxynaphthyl ketone, 1888.
- 4-Methoxynaphthylpropanol chlorhydrin, cellulose etherified by, 1401.
- 2-Methoxy-4-nitrobenzeneazodiethylamine, cellulose acetate dyed using, 750.
- 4-Methoxy-3-nitrobenzene-1-azodiethylamine, film colored by, 2519.
- Methoxyoxyaniline, 2019.
- 4'-Methoxy-2-oxy-5-methylazobenzene, cellulose ether dyed using, 299, 2228.
- Methoxyphenone, 1863, 1986.
- p*-Methoxypropenylbenzene, *see* Anethol.
- p*-Methoxypyridine, record, phonograph, made using, 2606.
- 5-Methoxy-*o*-toluidide, 1086.
- 4-(4'-Methoxy-*m*-toluidine)-anthraquinone, 2250.
- Methozine, *see* Antipyrine.
- Methyl, *see* Dimethyl, Monomethyl, Trimethyl.
- Methyl abietate, 1955.
- , mfr., 975.
- , transfer made using, 2548.
- Methylacetanilid, 1872, 2022, 2023, 2024, 2026, 2037.
- , camphor substitute, 2051.
- , cellulose acetate plastifier, 385.
- , cellulose acetate solvent, 469, 471, 1818, 1819, 1843.
- , cellulose ether solvent, 54.
- , *see also* Exalgin.
- Methyl acetate, 916, 1652, 1661, 1667, 1746, 1852, 1885, 1912, 1932, 1935, 2007.
- , acetanilid as cellulose ether solvent with, 68.
- Methyl acetate, amyl alcohol and, cellulose ether solvent, 99.
- , aniline acetate as cellulose ether solvent with, 68.
- , anthranilic acid as cellulose ether solvent with, 68.
- , benzaldehyde solvent with, 50.
- , benzamide as cellulose ether solvent with, 68.
- , benzoic acid as cellulose ether solvent with, 68.
- , benzyl acetone as cellulose ether solvent with, 68.
- , b. pt. methyl alcohol with, 1831.
- , brush lacquer containing, 464.
- , butyl alcohol and, cellulose ether solvent, 99.
- , butyl tartrate solvent with, 50.
- , carbon tetrachloride and, cellulose ether solvent, 99.
- , cellulose acetate dissolved by, 485.
- , cellulose acetate lacquer containing, 478, 539, 730.
- , cellulose acetate precipitant, 811, 1043.
- , cellulose acetate solvent, 445, 446, 484, 582, 699, 813, 1691, 2435.
- , cellulose ether made using, 2460.
- , cellulose ether ink containing, 2474.
- , cellulose ether non-solvent, 1452.
- , cellulose ether solvent, 50, 52, 2088, 2089.
- , cellulose combined with, 228.
- , cellulose esterified in presence of, 865.
- , cellulose nitrate dissolved by, 485.
- , cellulose nitrate precipitant, 811.
- , cyclohexanol solvent with, 50.
- , cyclohexanone solvent with, 50.
- , dibenzylamine solvent with, 51.
- , dilution ratio, 1786, 1787.
- , dimethylaniline solvent with, 51.
- , diphenylamine as cellulose ether solvent with, 68.
- , diphenyl methane solvent with, 51.
- , engine fuel containing, 1910.
- , ethyl alcohol and, cellulose ether solvent, 97, 99.
- , ethyl benzene solvent with, 51.

- Methyl acetate, ethyl cellulose solvent, 19, 134, 1226, 1426, 1437, 2356.
- , ethylcellulose xanthanilide solvent, 1644.
  - , ethylene bromide solvent with, 50.
  - , ethylene chloride solvent with, 51.
  - , ethylene trichloride solvent with, 50.
  - , ethyl iodide solvent with, 50.
  - , fiber coated with, cellulose acetate and, 649.
  - , film made using, 2509.
  - , flash point, 2061.
  - , glass, laminated, made using, 2595.
  - , jointing material made using, 2439.
  - , lacquer containing, 2391, 2392, 2406, 2420.
  - , lacquer, fireproof, containing, 520.
  - , mfr., 461, 605, 706, 772, 851, 1002, 1032, 1045, 1068.
  - , methyl acetone solvent with, 50.
  - , methyl alcohol and, cellulose ether solvent, 97, 99.
  - , methylcellulose solvent, 134, 2356.
  - , methyl chloride solvent for, 1253.
  - , methylene chloride solvent with, 50.
  - , phenyl benzoate as cellulose ether solvent with, 68.
  - , physical constants, 1792.
  - , propyl alcohol and, cellulose ether solvent, 97, 99.
  - , saponifying, 604.
  - , screen, fluorescent, made using, 2541.
  - , starch ether solvent, 1483.
  - , stencil sheet made using, 2491.
  - , tribenzylamine as cellulose ether solvent with, 68.
  - , tube made using, 2439.
  - , uses, 1912, 1913.
- Methyl acetic acid, see Propionic acid.*
- Methyl acetoacetate, 560, 1929, 1930.
- , camphor substitute, 2051.
  - , cellulose acetate solvent, 445.
- Methyl acetoacetate, cellulose acetate with, as plastic, 48.
- , cellulose nitrate with, as plastic, 48.
  - , ethylcellulose with, as plastic, 48.
  - , methylcellulose with, as plastic, 48.
- Methylacetone, 435, 2026.
- , airplane dope containing, 442.
  - , borated cellulose made using, 490.
  - , cellulose ether solvent, 50.
  - , dilution ratio, 1786, 1787.
  - , ink containing, 2475.
  - , physical constants, 1792.
  - , stencil sheets containing, 686, 2491.
  - , *see also Methylethylketone.*
- Methylacetophenone, 1863.
- o*-Methylacetophenone, 1888, 1986.
  - p*-Methylacetophenone, 1888, 1986.
- Methyl acetosalicylate, 1963.
- s*-Methyl-acetylchloranilid, 2021.
- Methyl acetylene, see Allylene.*
- Methyl acetyl-glycerate, 1953.
- Methyl acetyl-lactate, 1953.
- Methyl acetyl naphthoate, cellulose acetate plastifier, 550.
- Methyl acetyl-oxyoleate, 1939.
- Methyl acetyl-oxystearate, 1939.
- , camphor substitute, 2051.
- Methyl acetyl-ricinoleate, 1939.
- , camphor substitute, 2051.
- Methyl acetyl-salicylate, 1963, 2027.
- , camphor substitute, 2051.
  - , cellulose acetate plastifier, 550.
- Methyl acetyl-tartrate, 1953.
- as*-Methyl-acetyltetrachloranilid, 2021.
- Methylacetyl-*o*-toluidine, 2017.
- Methylacetyltrichloranilid, 2021.
- meso*-Methylacridine, amines solvent for, 2011.
- Methyl acrylate, 1093, 1953, 1954.
- , cellulose acetate solvent, 507.
  - , cellulose acetate spun with, 2084.
  - , glass, laminated, made using, 2589.
- Methyl adipate, 1939, 1953, 2646.
- , delustring with, 2187.
  - , plastic containing, 2546.
- Methyladipic acid, 1677.
- a*-Methyladipic acid, 1953.
  - b*-Methyladipic acid, 1953.

*Methyladronol*, see *Methylcyclohexanol*.

Methylal, 524, 1872.

—, solvent, 1801.

Methylal acetate, cellulose acetate plasticizer, 398.

Methyl alcohol, 278, 1829, 1993, 1998, 2023.

—, acetanilid as cellulose ether solvent with, 68.

—, acetic acid made using, 832, 853, 867.

—, acetol made using, 891.

—, acetone made using, 772.

—, acetylacetone as solvent with, 53.

—, acetyl-*p*-phenetidine as solvent with, 54.

—, amines solvent for, 2011.

—, amyl butyrate as solvent with, 54.

—, amyl carbonate as solvent with, 54.

—, amyl formate as solvent with, 54.

—, amyl propionae as solvent with, 53.

—, aniline acetate as cellulose ether solvent with, 68.

—, aniline acetate as solvent with, 54.

—, anthranilic acid as cellulose ether solvent with, 68.

—, benzal bromide as solvent with, 54.

—, benzal chloride as solvent with, 54.

—, benzaldehyde solvent with, 50.

—, benzamide as cellulose ether solvent with, 68.

—, benzanilid as solvent with, 54.

—, benzene and, cellulose ether solvent, 1802.

—, benzoic acid as cellulose ether solvent with, 68.

—, benzotribromide as solvent with, 54.

—, benzotrichloride as solvent with, 54.

—, benzyl acetate and, cellulose ether solvent, 99.

—, benzyl acetone as cellulose ether solvent with, 68.

—, benzyl bromide as solvent with, 54.

—, benzylcellulose solvent, 1587.

Methyl alcohol, benzyl chloride as solvent with, 54.

—, benzyloethyl ether solvent with, 51.

—, butyl acetate with, cellulose ether solvent, 97.

—, *n*-butylbenzyl ether solvent, with, 52.

—, butyl butyrate as solvent with, 54.

—, butyl butyrate with, cellulose ether solvent, 97.

—, butyl carbonate as solvent with, 54.

—, *n*-butyl-*o*-cresyl ether solvent with, 51.

—, butyl formate as solvent with, 54.

—, *n*-butylphenyl ether solvent with, 52.

—, butyl propionate with, cellulose ether solvent, 97.

—, butyl propionate as solvent with, 53.

—, butyl tartrate solvent with, 50.

—, carvone as solvent with, 53.

—, catechol diacetate as solvent with, 54.

—, catechol monoacetate as solvent with, 54.

—, cellulose acetate dissolved by, 485.

—, cellulose acetate lacquer containing, 730.

—, cellulose acetate non-solvent, 324.

—, cellulose acetate peptized, 614.

—, cellulose acetate plastic with, 442.

—, cellulose acetate precipitant, 811.

—, cellulose acetate sheets decorated using, 720.

—, cellulose acetate solvent, 484, 1691, 1818, 1819, 1843, 2435.

—, cellulose acetate stabilizer, 734.

—, cellulose acetate swelling agent, 660, 800, 908.

—, cellulose acetate viscosity depressed by, 924.

—, cellulose ether coagulation prevented by, 288.

—, cellulose ether dyed level in presence of, 104.

—, cellulose ether dyeing using, 2237.

- Methyl alcohol, cellulose ether film made using, 2508.  
—, cellulose ether non-solvent, 244, 1452, 2089, 2091.  
—, cellulose ether solvent, 50, 1841, 2102.  
—, cellulose formate precipitant, 442.  
—, cellulose nitrate dissolved by, 485.  
—, cellulose nitrate plastic with, 442.  
—, cellulose nitrate precipitant, 811.  
—, chlorbenzene solvent with, 51.  
—, chloroform with, as solvent, 52.  
—, crepe effect using, 2334.  
—, cyclohexanol solvent with, 50.  
—, cyclohexanone solvent with, 50.  
—, diamyl ketone solvent with, 52.  
—, dibenzylamine solvent with, 51.  
—, dibrombenzene as solvent with, 53.  
—, dibromtoluene as solvent with, 54.  
—, dibutyl ketone solvent with, 52.  
—, diethyl carbanilide as solvent with, 54.  
—, diethyl ketone solvent with, 52.  
—, diisopropyl ketone solvent with, 52.  
—, *p*-dimethylaminobenzanilid as solvent with, 54.  
—, *p*-dimethylaminophenyl acetate as solvent with, 54.  
—, dimethylaniline solvent with, 51.  
—, diphenylamine as cellulose ether solvent, 68.  
—, diphenyl ether solvent with, 51.  
—, diphenylethylene diamine as solvent with, 54.  
—, diphenyl methane solvent with, 51.  
—, dipropyl ketone solvent with, 52.  
—, epichlorhydrin as solvent with, 53.  
—, ethyl acetate with, as solvent, 52.  
—, —, as cellulose ether solvent, 97.  
—, ethylbenzene solvent with, 51.  
—, ethyl benzoate and, cellulose ether solvent, 99.  
—, ethylbenzylaniline solvent with, 51.  
—, ethyl butyrate with, cellulose ether solvent, 97.  
Methyl alcohol, ethyl carbonate as solvent with, 54.  
—, ethylcellulose lacquer containing, 2411.  
—, ethyl cellulose solvent, 17, 18, 19, 20, 21.  
—, ethylcellulose solvent of benzene and, 95.  
—, ethylcellulose xanthanilide solvent, 1644.  
—, ethylene bromide solvent with, 50.  
—, ethylene chlorbromide and, cellulose ether solvent 99.  
—, ethylene chloride solvent with, 51.  
—, ethylene trichloride solvent with, 50.  
—, ethyl formate as solvent with, 54.  
—, ethyl iodide solvent with, 50.  
—, ethyl lactate as solvent with, 53.  
—, ethyl propionate as solvent with, 53.  
—, ethyl propionate with, cellulose ether solvent, 97.  
—, ethyl succinate as solvent with, 53.  
—, eutectic mixtures, 1831.  
—, fabric coated using, 2486.  
—, film made using, 2522.  
—, flash point, 2061.  
—, floor covering made using, 2437.  
—, furfural and as cellulose acetate solvent, 580.  
—, furfural solvent with, 51.  
—, glass, laminated, made using, 2595.  
—, hexyl acetate as solvent with, 53.  
—, hydroxypropylcellulose solvent, 290.  
—, hydroxyquinol diacetate as solvent with, 54.  
—, hydroxyquinol monoacetate as solvent with, 54.  
—, hydroxyquinone diacetate as solvent with, 54.  
—, hydroxyquinone monoacetate as solvent with, 54.  
—, lacquer containing, 2392, 2406.  
—, mfr., 461, 663, 778, 869.  
—, mercerizing in presence of, 1191.  
—, methylacetanilide as solvent with, 54.

- Methyl alcohol, methyl acetate solvent with, 50, 52.
- , methyl acetate with, cellulose ether solvent, 97, 99.
  - , methyl acetone solvent with, 50.
  - , methyl amyl ketone solvent with, 52.
  - , methyl benzoate solvent with, 51.
  - , methylbutyl ketone solvent with, 52.
  - , methyl butyrate with, cellulose ether solvent, 97.
  - , methyl carbonate as solvent with, 54.
  - , methylcellulose coagulated by, 1460.
  - , methylcellulose coagulation prevented by, 288.
  - , methyl *o*-cresyl ether solvent with, 52.
  - , methylene chloride solvent with, 50.
  - , methylethyl ketone solvent with, 52.
  - , methyl formate as solvent with, 54.
  - , methyl propionate as solvent with, 53.
  - , methyl propionate with, cellulose ether solvent, 97.
  - , methylpropyl ketone solvent with, 52.
  - , methyl salicylate solvent with, 51.
  - , monobrombenzene as solvent with, 53.
  - , monobromtoluene as solvent with, 54.
  - , monochlorbenzene solvent with, 51.
  - , monochloronaphthalin with, as solvent, 52.
  - , mother-of-pearl made using, 999.
  - , pearl essence made using, 2619.
  - , peat for, 1165.
  - , pentachlorethane solvent with, 51.
  - , perchlorethylene solvent with, 51.
  - , phenol solvent with, 51.
  - , phenyl benzoate as cellulose ether solvent with, 68.
  - , phenyl ethers solvent with, 51.
  - , phenylethylether solvent with, 51.
- Methyl alcohol, phenylmethylether solvent with, 51.
- , phenylpropyl alcohol solvent with, 51.
  - , phenylurea as solvent with, 54.
  - , plastic made containing, 2563.
  - , plastic of cellulose acetate and, 1024.
  - , polish, shoe, made using, 689.
  - , polyhydroxybenzene acetates as solvent with, 54.
  - , propyl acetate with, cellulose ether solvent, 97.
  - , propyl butyrate as solvent with, 54.
  - , propyl butvrate with, cellulose ether solvent, 97.
  - , propyl carbonate as solvent with, 54.
  - , propyl formate as solvent with, 54.
  - , propyl propionate as solvent with, 53.
  - , propyl propionate with, cellulose ether solvent, 97.
  - , pyrogallol diacetate as solvent with, 54.
  - , pyrogallol monoacetate as solvent with, 54.
  - , recovery, 803.
  - , resorcinol *monoacetate* as solvent with, 54.
  - , resorcinol diacetate solvent with, 51, 54.
  - , screen, fluorescent, made using, 2541.
  - , starch ether solvent, 1483, 1484.
  - , tetrachlorethane and, cellulose ether solvent, 97.
  - , toluene with, as solvent, 52.
  - , tribenzylamine as cellulose ether solvent with, 68.
  - , trimethylcellulose solvent, 1315.
  - , triphenyl phosphate and as solvent, 1901.
  - , wood oil containing, 296.
  - , xylene solvent with, 51.
  - , zinc acetate made using, 772.
  - , *see also Ethanol*.
- Methyl alcohol-chloroform, ethylcellulose xanthanilide solvent, 1644.
- Methyl alcohol-methyl acetate, ethylcellulose xanthanilide solvent, 1644.
- Methyl aldehyde, 1865.
- Methyl amido-oxalate, 1948.

- o*-Methyl-amido-phenol, *see o*-Anisidine.
- Methylamine, 198, 1749.
- , 4-amino-1.8-naphthalic anhydride combined with, 305.
- , bleaching cellulose by, 1411.
- , catalyst in acetation, 433.
- , cellulose acetate dyed using, 2246.
- , cellulose acetate hydrated in presence of, 356.
- , cellulose acetate solvent, 891.
- , cellulose ether dehydrated using, 2337.
- , cellulose ether dyed using, 2255.
- , cellulose etherified using, 273.
- , cellulose nitrate solvent, 891.
- , mfr., 500.
- , solubility organic compounds in, 2007.
- monoMethylamine, cellulose acetate dyed using, 531.
- , mfr., 493.
- Methylamine bisulfate, catalyst in cellulose acetate mfr., 413, 466.
- , cellulose acetate solubility modified by, 354.
- monoMethylamine chloride, monomethylxylenesulfonamide made using, 493.
- Methylamine perchlorate, catalyst in cellulose acetate mfr., 688.
- , cellulose purified by, 1411.
- Methylamine sulfate, 1263.
- , acetating in presence of, 360.
- , catalyst in cellulose acetate mfr., 466.
- , catalyst in cellulose acetating, 354.
- , cellulose acetate solubility modified by, 354.
- 1-Methylamino-4-amino-anthraquinone, 2319.
- , cellulose ether dyed using, 2251.
- 1-Methylamino-4-aminomethylanthraquinone, cellulose ether dyed using, 2267.
- 1-Methyl-amino-4-anilinoanthraquinone, cellulose ester dyed using, 299.
- , cellulose ether dyed using, 299.
- Methylaminoanthraquinone, cellulose acetate dyed using, 841.
- , cellulose ether dyed using, 2270.
- a*-Methylaminoanthraquinone, cellulose ester dyed with, 197.
- a*-Methylaminoanthraquinone, cellulose ether dyed with, 197, 2222, 2308.
- 1-Methylamino-anthraquinone, cellulose acetate dyed using, 551, 846.
- , cellulose ether dyeing using, 2237, 2279.
- , printing fabric with, 1000.
- Methylaminoanthraquinone-*w*-sulfonic acid, cellulose acetate dyed using, 718.
- , mfr., 718.
- Methylaminobenzene, 4-amino-1.8-naphthalic anhydride combined with, 305.
- 1-Methyl-4-aminobenzene-3-sulfochloride, 2629.
- 1-Methyl-4-aminobenzene-2-sulfonic acid methylphenyltolylamine, cellulose acetate dyed using, 2246.
- Methyl aminobenzoate, lacquer containing, 2416.
- 1-Methylamino-2-isobutylthiolanthraquinone, cellulose dyed with, 196.
- , dyeing with, 196.
- 1-Methylamino-4-chloranthraquinone, cellulose ether dyed using, 2270, 2298.
- 1-Methylamino-4.8-diamino-5-oxyanthraquinone, 971.
- 1-Methylamino-4-By-dihydroxypropylthiolanthraquinone, cellulose ether dyed with, 142, 2267.
- 1-Methylamino-2-ethyl-thiolanthraquinone, cellulose dyed with, 196.
- , dyeing with, 196.
- 1-Methylamino-4-hydroxyanthraquinone, 219.
- 5-Methylaminohydroxyanthraquinone, cellulose acetate dyed using, 936.
- 6-Methylaminohydroxyanthraquinone methyl ether, cellulose acetate dyed using, 937.
- Methylaminophenol, see Anisidine.*
- 1-Methylamino-4-*p*-tolylaminoanthraquinone, cellulose acetate dyed using, 528.
- Methylammonium hydroxide, cellulose mercerized by, 1189, 1191.
- Methylamyl abietate, 2053.
- Methylamyl acetate, 1920, 1972.
- Methylamyl alcohol, 1837.
- Methylamyl benzoate, 1975.

- Methylamylcellulose, mfr. of, 238, 1338, 1606.  
Methylisoamyl ether, 1869.  
*Methylamyl hexahydrobenzoate*, see *Methylamyl naphthenate*.  
Methylamyl ketone, 1877.  
—, cellulose ether solvent, 52.  
—, ethylcellulose solvent, 1349.  
—, viscosity of, 1357.  
Methylamyl laurate, 2053.  
Methylamyl naphthenate, 1966.  
Methylamyl phenylacetate, 1975.  
Methylamyl phthalate, 1975.  
Methylamyl ricinoleate, 2053.  
Methylamyl salicylate, 1975.  
Methylamyl tere-phthalate, 1975.  
*Methyl anilidoacetate*, see *Methyl-phenylglycine*.  
*N-Methyl-4-anilidoanthrapyridine*, cellulose acetate dyed using, 673.  
Methylaniline, 1749, 1752, 2014, 2032.  
—, cellulose acetate dyed using, 504.  
—, cellulose ether dyed using, 2280.  
—, cellulose etherified using, 274.  
*monoMethylaniline*, cellulose xanthate dissolved by, 132.  
Methyl anisate, 1966.  
—, cellulose ester solvent, 267.  
—, cellulose ether solvent, 267.  
Methylanion, cellulose acetate solvent, 699.  
—, see also *Methyl cyclohexanone*.  
Methyl anthranilate, 1895, 1964.  
—, cellulose acetate solvent, 1818, 1819.  
Methylarabinoside, 2, 1499, 1500.  
1-Methyl-arabonolactone, 1497.  
Methyl aspirin, 1963.  
—, see also *Methyl acetyl salicylic acid*.  
*Methylated cellulose*, see *Cellulose, methylated*.  
Methylated ether, 1999.  
—, cellulose acetate dissolved by, 393.  
*Methylated spirit*, see *Methyl alcohol*.  
Methylated starch, 123.  
*Methylated sugar*, see *Sugar, methylated*.  
*Methylation*, see *Cellulose, methylation*.  
Methyl azeleate, 1939.  
Methylbeech wood, 1624.  
—, see also *Methyl lignin*.  
*Methylbenzene*, see *Toluene*.  
*unsym-Methylbenzene (tri)*, see *Cumene, pseudo*.  
Methylbenzenedisulfonic acid, cellulose ester coagulant for, 226.  
—, cellulose ether coagulant for, 226.  
Methyl benzene sulfonamide, hollow filaments produced using, 2365.  
*N-Methylbenzene sulfonanilid*, cellulose acetate plasticizer, 742.  
—, cellulose ether plastifier, 175.  
Methylbenzenesulfone, cellulose acetate plasticizer, 464.  
—, cellulose ether softener, 80.  
Methylbenzenesulfonic acid, cellulose ester coagulant for, 226.  
—, cellulose ether coagulant for, 226.  
—, cellulose ether plasticizer, 174.  
2-Methylbenzene-5-sulfonic acid-1-azo-3-amino-4-cresolmethyl ether cellulose ether dyed using, 2260.  
Methyl benzoate, celluloid solvent, 890, 1952, 1957, 1958, 1960.  
—, cellulose acetate solvent, 889, 890, 1785, 1818, 1819.  
—, cellulose ether solvent, 51.  
—, rubber solvent, 889.  
Methylbenzoic acid, cellulose treated with, 2314.  
Methylbenzoin, 2.  
*Methylbenzoyl*, see *Acetophenone*.  
Methylbenzoyl-glycerate, 1953.  
Methyl benzoyl-lactate, 1953.  
Methyl benzoyl naphthoate, cellulose acetate plastifier, 550.  
Methyl benzoyl-oxyoleate, 1939.  
Methylbenzoyl-oxystearate, 1939.  
—, camphor substitute, 2051.  
Methyl benzoyl-ricinoleate, 1939.  
Methyl benzoyl-salicylate, 1963, 2027.  
—, camphor substitute, 2051.  
—, cellulose acetate plastifier, 550.  
Methyl benzoyl-tartrate, 1953.  
Methylbenzoyltrichloracetanilid, 2017.  
Methylbenzoyltrichloraniline, 2025.  
Methylbenzylaniline, cellulose ether dyed using, 275, 2257.  
*N-Methyl-N-benzylaniline sulfonic acid*, cellulose ether dyed using, 2276.  
Methylbenzylcellulose, 1536, 1591.

- Methylbenzylcellulose, mfr. of, 39, 58, 286, 1289, 1592, 1611.  
 —, solubility, 1344.  
 Methylbenzylcellulose acetate, mfr. of, 287.  
 Methyl-benzyl chloride, 286.  
 Methylbenzyl crotonate, 2625.  
 2-Methyl-6-benzylcyclohexanone, 1987.  
 Methylbenzyl ether, 1871, 1872.  
 —, cellulose acetate solubility in, 1042.  
 Methylbenzyl lactate, cellulose acetate plastifier, 729.  
 Methylbenzyltrichloraniline, 2025.  
 Methylbenzylurea, 2029.  
 Methyl borate, 1909.  
 Methyl *m*-brombenzoate, 1867, 1958.  
 —, cellulose ester solvent, 267.  
 —, cellulose ether solvent, 267.  
 Methyl brombenzylcellulose, mfr., 287, 1592.  
 Methylbrombenzyl cellulose acetate, mfr., 1592.  
 Methylbrombenzyl ether, 1871.  
 Methyl-*b*-bromomethyl ketone, mfr., 710.  
 Methyl bromide, 239, 1811, 2059.  
 —, cellulose alkylated with, 293.  
 —, fire extinguisher, 543.  
 —, flax alkylated with, 293.  
 —, hemp alkylated with, 293.  
 —, jute alkylated with, 293.  
 —, linen alkylated with, 293.  
 —, mfr., 1254.  
 —, methylation with, 1249.  
 —, properties, 1254.  
 Methyl brom-myristate, 1941.  
 Methyl brom-palmitate, 1941.  
 Methyl brom-stearate, 1941.  
 Methylbutenylketone, *see* *Mesityl oxide*.  
 Methylisobutylacetate, 1916.  
 Methylbutylanilid, 2026.  
 Methylisobutyl carbinol, 1837, 1972.  
 Methylisobutylcarbinol acetate, 1920.  
 Methylisobutyl carbinol butyrate, 1934.  
 Methylbutylcellulose, butyl acetate with for lacquer mfr., 2426.  
 —, butyl alcohol with for lacquer mfr., 2426.  
 —, butylglycol with for lacquer mfr., 2426.  
 Methylbutylcellulose, butyl phthalate with for lacquer mfr., 2426.  
 —, cyclohexanol with for lacquer mfr., 2426.  
 —, ethylglycol with for lacquer mfr., 2426.  
 —, glyceryl abietate with for lacquer mfr., 2426.  
 —, hydroaromatic benzine with for lacquer mfr., 2426.  
 —, iron (ic) oxide with for lacquer mfr., 2426.  
 —, lacquer containing, 288.  
 —, mfr. of, 238, 1338, 1606.  
 —, methylglycol acetate with for lacquer mfr., 2426.  
 —, sanga oil with for lacquer mfr., 2426.  
 —, tricresyl phosphate with for lacquer mfr., 2426.  
 —, turpentine oil with, for lacquer mfr., 2426.  
 —, zinc oxide with for lacquer mfr., 2426.  
 Methylisobutyl citrate, 1934.  
 Methylbutylene glycol, cellulose acetate plastifier, 620.  
 Methylbutylene glycol ether, cellulose acetate solvent, 665.  
 Methylisobutyl ether, 1869.  
 Methylbutyl ketone, 1877, 1878.  
 —, cellulose ether solvent, 52.  
 —, ethylcellulose solvent, 1349.  
 —, viscosity of, 1357.  
 Methylisobutyl ketone, acetic acid concentrated using, 719.  
 Methyl-*n*-butyl ketoxime, 1887.  
 Methyl-*ter*-butyl ketoxime, 1887.  
 Methylisobutyl laurate, 1934.  
 Methylisobutylmethyl citrate, 1952.  
 Methylisobutylmethyl laurate, 1952.  
 Methylisobutylmethyl oleate, 1952.  
 Methylisobutylmethyl oxalate, 1952.  
 Methylisobutylmethyl palmitate, 1952.  
 Methylisobutylmethyl propionate, 1952.  
 Methylisobutylmethyl stearate, 1952.  
 Methylisobutylmethyl succinate, 1952.  
 Methylisobutylmethyl tartrate, 1952.



- Methylisobutylmethyl valerate, 1952.  
Methylisobutyl oleate, 1934.  
Methylisobutyl oxalate, 1934.  
*Methylisobutyl oxide, see Methylisobutyl ether.*  
Methylisobutyl palmitate, 1934.  
Methylbutyl phthalate, cellulose acetate solvent, 705.  
—, cellulose nitrate solvent, 705.  
Methylbutyl o-phthalate, 1973.  
Methylisobutyl stearate, 1934.  
Methylisobutyl succinate, 1934.  
Methylisobutyl tartrate, 1934.  
Methylisobutyl valerate, 1934.  
Methyl butyrate, 1932, 1935, 1944.  
—, engine fuel containing, 1910.  
—, methyl alcohol and, cellulose ether solvent, 97.  
—, formic acid made using, 691.  
—, methyl alcohol and, cellulose ether solvent, 97.  
—, pretreating, 626, 627.  
—, propyl alcohol and, cellulose ether solvent, 97.  
—, use, 626.  
Methyl-*n*-butyrate, flash point, 2061.  
Methyl carbamate, 1955.  
—, cellulose acetate inflammability reduced by, 942.  
—, cellulose acetate plastifier, 1008.  
—, plastic made containing, 2563.  
Methyl carbanilate, 1956, 1957.  
Methyl carbonate, 1906.  
—, cellulose ether solvent, 54.  
*Methyl carbylamine, see Methyl iso-cyanide.*  
*monoMethyl catechol, see Guaiacol.*  
Methylcellobiose acetate, 205, 246, 1323, 1370.  
Methylcelloside, cellobiose octo-acetate from, 80, 1126.  
—, methylation of, 80, 1111, 1126.  
Methyl-celloside acetate, 80.  
—, cellobiose octo-acetate from, 1126.  
Methyl cellosolve, physical constants, 1792.  
Methylcellosolve acetate, cellulose acetate solvent, 801.  
—, physical constants, 1792.  
Methyl cellosolve phthalate, cellulose acetate solvent, 801.  
—, *see also Methylglycol phthalate.*  
Methylcellotriose, 1510.  
Methylcellulose, 3, 35, 36, 38, 189, 190, 285, 1255, 1305, 1311, 1318, 1322, 1552, 1557, 1605, 1651, 1652, 1653, 1654, 1667, 1671, 1965, 1983, 1990, 2028, 2029, 2041, 2240, 2241, 2242, 2256, 2315, 2362, 2628.  
—, acaroid compound with, 175.  
—, acaroid with as lacquer, 178.  
—, acetic acid, glacial, solubility, 1307.  
—, acetolysis of, 205, 1322, 1323, 1370.  
—, acetone for reducing viscosity of, 224.  
—, acetone used in lacquer, 2406.  
—, acetone-furfural combined with, 174, 1364.  
—, acetone solvent for, 134, 278, 1345.  
—, acetylation of, 29.  
—, acetyl-4-bromomethylanilide combined with, 227.  
—, acetyl-2,4-dibromanilide combined with, 227.  
—, acetyl-3,4-dibromanilide combined with, 227.  
—, acetyl-2,4,5-tribromanilide combined with, 227.  
—, acetyl-2,4,6-tribromanilide combined with, 227.  
—, acetyl-2,4,6-tribromomethylanilide combined with, 227.  
—, acetyl-1,3,6-tribrom-2-naphthalid combined with, 227.  
—, adhesive containing, 2598.  
—, alcohol solubility of, 278, 1345.  
—, Alizarine Astrol B dye for, 62.  
—, alkali absorption, 1320.  
—, aluminum salt for loading, 137.  
—, aluminum thiocyanate for mordanting, 113.  
—, ammonium thiocyanate for mordanting, 113.  
—, analyses of, 130.  
—, Aniline Black dye for, 62.  
—, aniline-furfural combined with, 1364.  
—, anthraquinonylamine ester for dyeing, 169.  
—, artificial resin plastic with, 173.  
—, Azo Yellow 3 G dye for, 62.  
—, benzene for reducing viscosity of, 224.  
—, benzene solubility of, 278, 1345.  
—, benzene used in lacquer, 2406.  
—, benzene solubility of, 278, 1345.

Methylcellulose, benzoyl-2.4.6-tri-bromanilide combined with, 227.  
 —, benzyl alcohol solvent for, 178, 1862.  
 —, benzylcellulose emulsified by, 1567.  
 —, benzylcellulose and as emulsion, 1581.  
 —, bismuth salt for loading, 137.  
 —, bitumen as plasticizer for, 96.  
 —, bleaching, 1461.  
 —, bromide in mfr. of, 1799.  
 —, butyl acetoacetate with, as plastic, 48.  
 —, butyl glycollate plastifier for, 202.  
 —, *iso*-butyl glycollates plasticizer for, 169, 202.  
 —, *n*-butyl glycollates plasticizer for, 169.  
 —, *iso*-butyl thioglycollates plasticizer for, 169.  
 —, *n*-butyl thioglycollates plasticizer for, 169.  
 —, camphor with, 60.  
 —, camphor substitute with, 60.  
 —, cellobiose octa-acetate from, 205.  
 —, celluloid substitute from, 178.  
 —, cellulose ether dyed using, 2303, 2304, 2307.  
 —, cellulose nitrate binder, 291.  
 —, cellulose nitrate emulsified by, 239, 267.  
 —, cellulose nitrate plastic with, 243.  
 —, chloretone as solvent for, 58.  
 —, chloroform, solubility, 1307.  
 —, chloroform for reducing viscosity of, 224.  
 —, chromium thiocyanate for mordanting, 113.  
 —, clarifying, 209.  
 —, coagulation, preventing, 288.  
 —, coating composition containing, 174.  
 —, colophony compound with, 175.  
 —, colored film made from, 2519.  
 —, comminution, 1375.  
 —, conditioning, 2143.  
 —, copal compound with, 175.  
 —, crepe effect on, 270.  
 —, cresol emulsified by, 2448.  
 —, cutting, 134.  
 —, dammar compound with, 175.  
 —, dammar with as lacquer, 178.  
 —, decolorizing, 1461.

Methylcellulose, decomposition of, 1328.  
 —, decomposition products of, 31.  
 —, decorative effect with, 164.  
 —, delustred, restoring luster, 135.  
 —, delustering, resistance to, 305.  
 —, depolarization, 1325, 1326.  
 —, depolymerization of, 77, 246.  
 —, desizing, 2143.  
 —, diacetyl-3.5-dibrom-2-toluid combined with, 227.  
 —, diacetyl-2.4.6-tribromanilide combined with, 227.  
 —, diazotypes made using, 2534.  
 —, dibutyl tartrate combined with, 1364.  
 —, dibutyl tartrate for reducing viscosity of, 224.  
 —, dichlorethane, solubility, 1307.  
 —, dichlorethane solvent for, 1816.  
 —, diethyl phthalate combined with, 1364.  
 —, diethyl phthalate for reducing viscosity of, 224.  
 —, diethyl phthalate plastifier for, 102.  
 —, diethyl phthalate solvent for, 134.  
 —, dioxane solvent for, 1876.  
 —, diphenol-propane-aldehyde combined with, 1364.  
 —, diphenylol-aldehyde combined with, 174.  
 —, diphenylol-propane-ketone combined with, 174.  
 —, diphenylol propane solvent for, 175.  
 —, dispersion of, 280.  
 —, distillation of, 94, 1328.  
 —, dyeing, 143, 156, 271, 275, 285, 2223, 2225.  
 —, —, diethyleneglycol monoethyl ether used in, 178.  
 —, —, diethylene glycol used in, 178.  
 —, —, ethyleneglycol monoethyl ether used in, 178.  
 —, —, ethylene glycol used in, 178.  
 —, dye preserved by, 121, 208.  
 —, dyes, solubilized, using, 2478.  
 —, dyestuff penetration by, 287.  
 —, egg-yolk substitute, 249.  
 —, electrodeposition of, 103.  
 —, embossed knitted fabrics of, 2356.  
 —, emulsifying, 234, 240, 267, 2451.

- Methylcellulose, emulsion containing, 1570, 2453, 2456, 2457, 2466, 2467.
- , etherifying, 1419.
  - , ether solubility of, 278, 1345.
  - , ether used in lacquer, 2406.
  - , ethyl acetate solubility of, 278, 1345.
  - , ethyl acetate solvent for, 178.
  - , ethyl acetate used in lacquer, 2406.
  - , ethyl acetoacetate with, as plastic, 48.
  - , ethyl alcohol used in lacquer, 2406.
  - , ethyleneglycol monoethyl ether solvent for, 1851.
  - , ethylglycol solvent for, 1851.
  - , ethyl lactate solvent for, 178.
  - , fabric, meshed, coated with, 2518.
  - , —, open work, mfr., 304.
  - , fabric coated using, 2484.
  - , fabric printed with, 199, 2328, 2344.
  - , fibrous, mfr., 145.
  - , filament, hollow, spun, using, 2369.
  - , filaments from, 49, 2469.
  - , —, mfr. of, 269, 2077, 2078.
  - , filler containing, 2480.
  - , film of attaching, 2391.
  - , —, mfr. of, 183, 241, 2469, 2519, 2526.
  - , —, thickness of, 159, 1367.
  - , formaldehyde combined with, 266.
  - , gasproofing, 107, 110.
  - , glass, laminated, made with, 164, 294.
  - , glass reinforced by, 144.
  - , glass sheets united by diphenylol propane and, 175.
  - , graphite combined with, 2543.
  - , hide tanned using, 2456.
  - , hide treated with, 249.
  - , homogeneity of, 33, 34.
  - , hydrolysis of, 31, 32, 205, 1111, 1320, 2621.
  - , 1-*b*-hydroxyethylamino-4-amino-anthraquinone sulfate for dyeing, 169.
  - , 1-*b*-hydroxyethylaminoanthraquinone sulfate for dyeing, 169.
  - , 1-*b*-hydroxyethylamino-2-bromo-4-anthraquinone sulfate for dyeing, 169.
- Methylcellulose, 1-*b*-hydroxyethylamino-4-hydroxyanthraquinone sulfate for dyeing, 169.
- , 1-*b*-hydroxyethylamino-4-methylaminoanthraquinone sulfate for dyeing, 169.
  - , 1-*b*-hydroxyethylamino-2-methylanthraquinone sulfate for dyeing, 169.
  - , inflammability, reducing, 304.
  - , ink, copying, stains removed by, 2552.
  - , ink stains removed with, 281.
  - , insolubilizing, 2422, 2467, 2468, 2469, 2577.
  - , insoluble, 189.
  - , insulating with, 176.
  - , insulator containing, mfr., 2443.
  - , iron thiocyanate for mordanting, 113.
  - , irradiation, 1342.
  - , jelling, preventing, 1349.
  - , kauri compound with, 175.
  - , kauri with as lacquer, 178.
  - , lacquer containing, 136, 178, 2420.
  - , lacquer, emulsion type, containing, 2414.
  - , —, low viscosity, 2406.
  - , lake made using, 2245.
  - , latex combined with, 2545.
  - , latex, rubber, combined with, 2543.
  - , lead chromate dispersed by, 2479.
  - , lead nitrate dispersed by, 2479.
  - , lightsensitive films made using, 2533.
  - , livering, preventing, 1349.
  - , low viscosity, 174.
  - , magenta dye for, 62.
  - , Malachite Green dye for, 62.
  - , manila compound with, 175.
  - , manila with as lacquer, 178.
  - , manol plastifier for, 102.
  - , mfr. of, 25, 40, 45, 73, 100, 101, 118, 145, 170, 171, 209, 233, 286, 293, 301, 415, 432, 1329, 1435, 1436, 1439, 1441, 1453, 1617.
  - , masses from, mfr., 2385.
  - , melting point of raised, 136.
  - , methoxyl content of, 130.
  - , methyl acetate solvent for, 134.
  - , methyl acetate used in lacquer, 2406.

- Methylcellulose, methyl acetoacetate with, as plastic, 48.  
—, methyl alcohol used in lacquer, 2406.  
—, Methylene Blue B dye for, 62.  
—, methylethyl acetoacetate with, as plastic, 48.  
—, methylethyl ketone for reducing viscosity of, 224.  
—, methylglycollates plasticizer for, 169, 202.  
—, methyl thioglycollates plasticizer for, 169.  
—, Methyl Violet dye for, 62.  
—, molecular size, 1367.  
—, molecular weight of, 72, 75, 1105, 1308, 1319.  
—, *b*-naphthol emulsified by, 2448.  
—, negative diazotypes made using, 2534.  
—, Nigrosine B dye for, 62.  
—, nitrating, 1676.  
—, 4-nitrobenzeneazo-*p*-xylydine for dyeing, 2238.  
—, nitrobenzene plastifier for, 102.  
—, 2-nitro-4-chlor-4'-methyl-diphenylamine for dyeing, 2238.  
—, 4-nitro-2-methoxybenzeneazodimethylaniline for dyeing, 2238.  
—, 4-nitro-2-methoxybenzeneazodimethylaniline for dyeing, 2238.  
—, Orange II dye for, 62.  
—, package dyeing of, 2307.  
—, Paramine Brown dye for, 62.  
—, paste condition, 1375.  
—, pattern effects on, 104.  
—, pencil stains removed with, 281, 2552.  
—, phenol-aldehydes combined with, 1364.  
—, phenol emulsified by, 2448.  
—, phenol-furfural combined with, 1364.  
—, *m*-phosphoric acid in mfr. of, 140.  
—, *o*-phosphoric acid in mfr. of, 140.  
—, phosphoric acid in deposition of, 103.  
—, phosphorus acid in deposition of, 103.  
—, plaited effect on, producing, 270.  
—, plastic of, 285, 1676, 2385, 2556, 2567, 2573, 2574, 2576.  
—, plastic of artificial resin and, 173.  
Methylcellulose, plasticity, 1351.  
—, plywood made using, 2597.  
—, pontianac with as lacquer, 178.  
—, pontianac compound with, 175.  
—, potassium thiocyanate for mordanting, 113.  
—, precipitating, preventing, 1349.  
—, primer containing, 2480.  
—, prints obtained using, 2477.  
—, printing with, 190, 296, 2326, 2345.  
—, printing with vat dye and, 208.  
—, properties, 1317.  
—, propyl acetoacetate with, as plastic, 48.  
—, propyl glycollates plasticizer for, 169, 202.  
—, propyl thioglycollates plasticizer for, 169.  
—, pyridine, solubility, 1307.  
—, record, phonograph, made using, 2605.  
—, resins combined with, 266.  
—, resorcinol diacetate plastifier for, 102.  
—, ribbon, mfr., 272.  
—, typewriter, stains removed by, 2552.  
—, Rocelline dye for, 62.  
—, rosin, glyceryl ester of, with as lacquer, 178.  
—, rosin compound with, 175.  
—, rotatory power, 149.  
—, rubber combined with, 2545.  
—, rubber paste containing, 193.  
—, salve made containing, 2450.  
—, sheets, mfr. of, 153, 183.  
—, shellac compound with, 175.  
—, shells, shotgun, waterproofed with, 2413.  
—, —, waterproofing of with, 2413.  
—, sizing of, 258, 2139.  
—, soap containing, 2450.  
—, sodium thiocyanate for mordanting, 113.  
—, solubility of, 32, 149.  
—, —, decreasing, 2454.  
—, —, increasing, 177.  
—, —, modifying, 1348.  
—, solubility in water, 1299.  
—, solvents of, 26.  
—, —, action on, 36.  
—, sound insulation using, 2349.  
—, spinning solutions of, 2107.  
—, stencil sheet made using, 2495.  
—, structure-viscosity of, 1353.  
—, tannin combined with, 2465.

- Methylcellulose, tannin for loading, 137.  
—, tanning with, 2467, 2468, 2469.  
—, tannin treated, 1426.  
—, tape, mfr., 272.  
—, tetrachlorethane solvent for, 178, 1307.  
—, textiles, metallization of, using, 2361.  
—, thickener of, 2156.  
—, Thioflavine T dye for, 62.  
—, tin salt for loading, 137.  
—, toluene used in lacquer, 2406.  
—, toluenesulfonamide combined with, 266.  
—, *p*-toluenesulfonamide plastifier for, 102.  
—, *p*-toluenesulfonamide solvent for, 134.  
—, translation lattice of, 211, 1327.  
—, triacetin plastifier for, 102.  
—, triacetin solvent for, 134.  
—, tribrom cresyl acetate fire retardant, 304.  
—, tribrom cresyl formate fire retardant, 304.  
—, tribrom cresyl propionate fire retardant, 304.  
—, tribrom naphthyl acetate fire retardant, 304.  
—, tribrom naphthyl formate fire retardant, 304.  
—, tribrom naphthyl propionate fire retardant, 304.  
—, tribrom phenyl acetate fire retardant, 304.  
—, tribrom phenyl formate fire retardant, 304.  
—, tribrom phenyl propionate fire retardant, 304.  
—, tribrom xylenyl acetate fire retardant, 304.  
—, tribrom xylenyl formate fire retardant, 304.  
—, tribrom xylenyl propionate fire retardant, 304.  
—, trichlor cresyl acetate fire retardant, 304.  
—, trichlor cresyl formate fire retardant, 304.  
—, trichlor cresyl propionate fire retardant, 304.  
—, trichlor naphthyl acetate fire retardant, 304.  
—, trichlor naphthyl formate fire retardant, 304.  
Methylcellulose, trichlor naphthyl propionate fire retardant, 304.  
—, trichlor phenyl acetate fire retardant, 304.  
—, trichlor phenyl formate fire retardant, 304.  
—, trichlor phenyl propionate fire retardant, 304.  
—, trichlor xylenyl acetate fire retardant, 304.  
—, trichlor xylenyl formate fire retardant, 304.  
—, trichlor xylenyl propionate fire retardant, 304.  
—, tricresyl phosphate combined with, 1364.  
—, tricresyl phosphate for reducing viscosity of, 224.  
—, tricresyl phosphate plastifier for, 102.  
—, triiodo cresyl acetate fire retardant, 304.  
—, triiodo cresyl formate fire retardant, 304.  
—, triiodo cresyl propionate fire retardant, 304.  
—, triiodo naphthyl acetate fire retardant, 304.  
—, triiodo naphthyl formate fire retardant, 304.  
—, triiodo naphthyl propionate fire retardant, 304.  
—, triiodo phenyl acetate fire retardant, 304.  
—, triiodo phenyl formate fire retardant, 304.  
—, triiodo phenyl propionate fire retardant, 304.  
—, triiodo xylenyl acetate fire retardant, 304.  
—, triiodo xylenyl formate fire retardant, 304.  
—, triiodo xylenyl propionate fire retardant, 304.  
—, triphenyl phosphate combined with, 1364.  
—, tubular threads of, mfr., 213.  
—, tumors treated with, 2447.  
—, tungsten salt for loading, 137.  
—, urea derivative stabilizer for, 102.  
—, urea stabilizer for, 102.  
—, uses of, 22, 2408.  
—, vat dye printing with aid of, 288.  
—, viscosity of, 1342.

- Methylcellulose, viscosity of, reducing, 224, 1352, 1354, 1356, 2092.  
—, —, water effect on, 1354, 1356.  
—, waterproofing, 107, 110, 193, 202, 2157, 2158.  
—, water solubility of, 278, 1307, 1311, 1312, 1318, 1345.  
—, —, reducing, 2420.  
—, water soluble, 245.  
—, —, modifying, 1348.  
—, —, suspensoid, 2176.  
—, —, uses, 193.  
—, wire, coating of, using, 2555.  
—, wood treated with, 233.  
—, xanthation of, 29.  
—, X-ray of, 1371.  
—, X-ray data of, 247, 248.  
—, X-ray diagrams, 1324, 1325.  
—, xylene-alkylsulfonamides plastifier for, 102.  
—, zinc oxide combined with, 2543.  
—, zinc salt for loading, 137.  
—, *see also Cellulose, methylated; Dimethylcellulose; monoMethylcellulose; Trimethylcellulose.*  
*a*-Methylcellulose, fabric printing using, 279.  
*monoMethylcellulose*, 205.  
—, esterifying, 288.  
—, mfr., 170, 288.  
Methylcellulose acetate, 1649.  
—, chloroform solvent for, 1813.  
—, mfr., 29, 191, 242, 287, 289, 1749.  
—, properties of, 27.  
Methylcellulose acetobenzoate, mfr. of, 140.  
Methylcellulose acetocinnamate, mfr. of, 140.  
Methylcellulose acetocrotonate, mfr. of, 140.  
Methylcellulose acetocyclohexanecarboxylate, mfr. of, 140.  
Methylcellulose acetoheptylate, mfr. of, 140.  
Methylcellulose acetohydrocinnamate, mfr. of, 140.  
Methylcellulose acetolaurate, mfr. of, 140.  
Methylcellulose aceto-*o*-methoxybenzoate, mfr. of, 140.  
Methylcellulose acetomyristate, mfr. of, 140.  
Methylcellulose acetopalmitate, mfr. of, 140.  
Methylcellulose acetophosphate, 1648.  
Methylcellulose acetostearate, mfr. of, 140.  
Methylcellulose acetoundecylenate, mfr. of, 140.  
Methylcellulose acetoisovalerate, valerate, mfr. of, 140.  
Methyl aceto-*n*-valerate, mfr. of, 140.  
Methylcellulose benzoate, 1652.  
—, mfr. of, 289, 1749.  
Methylcellulose butyrate, mfr., 1749.  
Methylcellulose cyclohexanecarboxylate, 190.  
—, mfr., 190.  
Methylcellulose diacetate, 1648.  
Methylcellulose fabric, dyeing, 637.  
—, printing, 637.  
—, stencilling, 637.  
—, stiffening, 2353.  
Methylcellulose formate, mfr. of, 257, 1749.  
Methylcellulose glycollate, 56, 57, 2627.  
—, mfr., 1725.  
Methylcellulose myristate, mfr., 1617.  
—, varnish containing, 1617.  
Methylcellulose nitrate, ammonium bromide for reducing inflammability of, 177.  
—, ammonium phosphate for reducing inflammability of, 177.  
—, mfr. of, 177.  
Methylcellulose oleate, mfr., 289.  
Methylcellulose palmitate, mfr., 1617.  
—, varnish containing, 1617.  
Methylcellulose phenylacetate, mfr., 190.  
Methylcellulose phenylurethane, 91.  
Methylcellulose *N*-phenylurethane, 1646.  
Methylcellulose propionate, mfr., 1749.  
Methylcellulose stearate, mfr., 289.  
Methylcellulose sulfate, 146.  
Methylcellulose thiourethane, 1645.  
Methylcellulose tolylurethane, 91.  
Methylcellulose viscosity, changes in, 1356.  
Methylcellulose xanthanilid, 1644.  
Methylcellulose xanthate, 1310, 1766, 2169.  
—, mfr., 125, 1765.  
Methylcellulose xanthtoluidid, 1644.

- Methylcellulose xylylurethane, 91.  
 Methyl chloracetate, 1913, 1919.  
 —, cellulose acetate solvent, 407.  
 Methylchlorobenzyl ether, 1871.  
 Methyl-4-chlor-3,5-dinitro-1-benzoate, cellulose ester dyed using, 241.  
 —, cellulose ether dyed using, 241.  
 Methyl-*b*-chloroethyl ketone, mfr., 710.  
 Methyl chlorformate, 544, 1500.  
 Methyl chloride, 150, 238, 239, 278, 286, 287, 288, 301, 1435, 1436, 1441, 1450, 1811, 1871, 2059.  
 —, alkylating with, 1251.  
 —, cellulose etherified by, 100, 1337, 1413, 1453.  
 —, cellulose methylated by, 24, 118.  
 —, detection, 1254.  
 —, dextrin etherified by, 100, 1453.  
 —, etherifying, 1417.  
 —, inflammability, 1253.  
 —, mfr., 1251, 1260.  
 —, properties, 1252.  
 —, starch etherified by, 100, 1453.  
 —, toxicity, 1253.  
 —, transporting, precautions, 1254.  
 —, uses, 1253, 1254.  
 Methyl chlor-myristate, 1941.  
 —, cellulose acetate plasticizer, 390.  
*Methyl chloroform, see Trichloroethane.*  
 Methyl chlor-palmitate, 1941.  
 —, cellulose acetate plasticizer, 390.  
 Methyl chlor-stearate, 1941.  
 —, cellulose acetate plasticizer, 390.  
 Methyl cinnamate, 1978.  
 —, cellulose acetate solvent, 1818, 1819.  
*Methylcinnamylketone, see Benzylidene acetone.*  
 Methyl citrate, 1952.  
 Methyl cresoxyacetate, 1926.  
 Methyl cresoxyamyl acetate, 1926.  
 Methyl cresoxybutyl acetate, 1926.  
 Methyl cresoxyethyl acetate, 1926.  
 Methyl cresoxymethyl acetate, 1926.  
 Methyl cresoxypropyl acetate, 1926.  
 Methylcresyl ether, 1870.  
 Methyl-*o*-cresyl ether, 1871.  
 —, cellulose ether solvent, 52.  
 Methyl crotonate, cellulose acetate solvent, 507.  
 Methyl *α*-crotonate, 1953.  
*Methylcrotonic acid, see Liglic acid.*  
*Methyl cyanide, see Acetonitrile.*  
 Methylcyclohexane, cellulose ester coagulated by, 133.  
 —, cellulose ether coagulated by, 133, 2085, 2097.  
 —, flash point, 2061.  
 Methylcyclohexanediol, wetting out agent, 1236.  
 Methylcyclohexanol, 1811, 1981, 1982, 1984.  
 —, flash point, 2061.  
 —, uses, 943.  
 —, wetting out agent, 1236.  
*o*-Methylcyclohexanol, 1989.  
 Methylcyclohexanol acetate, 1989.  
*o*-Methylcyclohexanol acetate, 1989.  
 Methylcyclohexanol adipate, 1989.  
 Methylcyclohexanol alcohol, cellulose ester coagulated by, 133.  
 —, cellulose ether coagulated by, 133.  
 Methyl-cyclohexanol cinnamate, delustring with, 2187.  
*o*-Methylcyclohexanol formate, 1989.  
 Methylcyclohexanol glutarate, 1953.  
 Methylcyclohexanol methyladipate, 1989.  
 Methylcyclohexanol *α*-methyladipate, 1953.  
 Methylcyclohexanol *b*-methyladipate, 1953.  
 Methylcyclohexanol oxalate, 1989.  
 Methylcyclohexanone, 223, 1155, 1863, 1876, 1885, 1888, 1977, 1984, 1985, 1986, 1988.  
 —, benzyl alcohol substitute, 443.  
 —, cellulose acetate lacquer containing, 402, 443.  
 —, cellulose acetate plasticizer, 429, 453, 493, 522.  
 —, cellulose acetate solvent, 813.  
 —, cellulose ether dispersed in, 2452.  
 —, cellulose ether solvent with dioxane and, 124.  
 —, cellulose nitrate solvent, 267.  
 —, cellulose pretreated with, 655.  
 —, glass, laminated, made using, 655, 2589.  
 —, glass strengthened using, 799.  
 —, lacquer containing, 2424.

- Methylcyclohexanone, tolyl alcohol substitute, 443.  
 —, wetting agents, 1235, 2207.  
*p*-Methylcyclohexanone, 1987.  
 Methylcyclohexanone-benzene, acetic acid solvent, 782.  
 Methylcyclohexanyl acetate, 1990.  
 Methylcyclohexylacetate, flash point, 2061.  
 Methylcyclohexyl acetoacetate, 1993.  
 Methylcyclohexyladipate, 1677.  
 —, film made using, 2528.  
*o*-Methylcyclohexyl adipate, cellulose acetate softener, 582.  
 2-Methylcyclohexyl-*n*-butyl phthalate, 1992.  
 3-Methylcyclohexyl-*n*-butyl phthalate, 1992.  
 4-Methylcyclohexylbutyl phthalate, 1992.  
 2-Methylcyclohexylethyl phthalate, 1992.  
 3-Methylcyclohexylethyl phthalate, 1992.  
 Methylcyclohexyl lactate, 1991.  
 Methylcyclohexyl levulinate, 1993.  
 Methylcyclohexyl *b*-ketobutyrate, 1993.  
 Methylcyclonaphthanone, 1888.  
*b*-Methylcyclopentanol, 1989.  
*b*-Methylcyclopentanol acetate, 1989.  
 —, cellulose acetate plasticizer, 408, 437.  
 —, cellulose nitrate plasticizer, 408.  
*b*-Methylcyclopentanol formate, cellulose acetate plasticizer, 437.  
 Methylcyclopentanone, wetting out agents, 1235.  
 Methylcyclopentene, cellulose ether solvent, 2227.  
 —, solubilizing agent, 2213, 2219.  
 Methyl dextrin, 1255.  
 —, mfr. of, 100.  
*mono*Methyl dextrose, 31.  
 Methyl diacetone ether, 1887.  
 3-Methyl-*a*-diacetone fructose, 1505.  
 Methyl diacetone mannose, 1503.  
 Methyl diacetyloxystearate, camphor substitute, 2051.  
 3-Methyl-2,6-diallylcyclohexanone, 1988.  
 Methyl diaminoanthraquinone, cellulose acetate dyed using, 718.  
 Methyl dibenzoyloxystearate, camphor substitute, 2051.  
 Methyl dicellulose, mfr., 1329.  
 Methyl dicresyl phosphate, 1896.  
*mono*Methyl dicresyl phosphate, benzylcellulose plastifier, 126.  
 —, ethylcellulose plastifier, 126.  
 Methyl diethylene glycol, 1847.  
 —, *see also* *Diethylene glycol methyl ether*.  
*mono*Methyl-diethyleneglycol, cellulose ether solvent, 172.  
 Methyl diethyleneglycol caprate, 1847.  
 Methyl diethyleneglycol caproate, 1848.  
 Methyl diethyleneglycol laurate, 1848.  
 Methyl diethyleneglycol linoleate, 1848.  
 Methyl diethyleneglycol oleate, 1848.  
 Methyl diethyleneglycol palmitate, 1848.  
 Methyl diethyleneglycol ricinoleate, 1848.  
 Methyl diethyleneglycol stearate, 1848.  
 Methyl diethyl orthoacetate, cellulose ester solvent, 708.  
 Methyl diformyloxystearate, camphor substitute, 2051.  
 Methyl dimethylethylthulonic acid, 1498.  
 Methyl dimethylethylacetate properties, 762.  
*mono*Methyl di(monochlorophenyl) phosphate, benzylcellulose plastifier, 167.  
 —, ethylcellulose plasticizer, 167.  
 Methyl dinaphthyl phosphate, 1896.  
 Methyl-2,6-dinitro-4'-anilino-3'-carboxy diphenylamine-4-carboxylate, cellulose ester dyed with, 121.  
 —, cellulose ether dyed with, 121.  
*N*-Methyl dinitrodiphenylamine, cellulose acetate dyed with, 542.  
 Methyl diphenylamine, cellulose acetate dyed using, 717.  
 —, cellulose ether dyed using, 275, 2251.  
 Methyl diphenyl phosphate, 1896, 1898.  
*mono*Methyl diphenyl phosphate, benzylcellulose plastifier, 126, 167.



- mono*Methyldiphenyl phosphate,  
 ethylcellulose plastifier, 126, 167.  
 Methyldiphenyl urea, 1956, 2029.  
 Methyl dipropionyloxystearate  
 camphor substitute, 2051.  
 Methyl dipropylene glycol, 1847.  
 Methyl dipropyleneglycol caprate,  
 1847.  
 Methyl dipropyleneglycol caproate,  
 1848.  
 Methyl dipropyleneglycol laurate,  
 1848.  
 Methyl dipropyleneglycol linoleate,  
 1848.  
 Methyl dipropyleneglycol oleate,  
 1848.  
 Methyl dipropyleneglycol palmitate,  
 1848.  
 Methyl dipropyleneglycol ricinoleate,  
 1848.  
 Methyl dipropyleneglycol stearate,  
 1848.  
 Methylene acetate, 1964.  
 —, cellulose acetate solvent, 1818,  
 1819.  
 Methylene acetoacetate, 1930.  
 Methyleneacetoacetic ester, cellulose  
 acetate softener, 642.  
 Methyleneacetone, 1882.  
 Methylene aminoacetonitrile,  
 amines solvent for, 2011.  
 Methylenebenzoyltrichloranilid,  
 2021.  
 Methylene-bis-2'4-chlorphenol, mildewproofing  
 using, 2202.  
 Methylene blue, 531.  
 —, cellulose acetate dyed using,  
 2235.  
 —, cellulose ester dyed with, 195.  
 —, cellulose ether dyed with, 195,  
 2222, 2225, 2237.  
 Methylene Blue B, benzylcellulose  
 dyed by, 62.  
 —, cellulose acetate dyed by, 512.  
 —, cellulose ester dyed by, 62.  
 —, ethylcellulose dyed by, 62.  
 —, methylcellulose dyed by, 62.  
 Methylene Blue D, cellulose acetate  
 dyed using, 718.  
 Methylene Blue F, cellulose ether  
 dye, 2222.  
 Methylene-cellulose, 212, 1618, 2623.  
*mono*Methylenecellulose, mfr., of,  
 252.  
 Methylenechlorhydrin, 1857.  
 —, cellulose acetate plastic, 444.  
 Methylenechlorhydrin, cellulose  
 acetate plasticizer, 429.  
 Methylene chloride, 154, 200, 806,  
 877, 1626, 1711, 1739, 1811, 1910,  
 1982.  
 —, acetic acid solvent, 926.  
 —, acetic acid concentrated using,  
 604.  
 —, acetic acid extracted with, 748.  
 —, benzylcellulose coagulated by,  
 259.  
 —, benzylcellulose solvent, 1555,  
 1587.  
 —, cellulose acetate coagulated by,  
 259.  
 —, cellulose acetate purified by, extraction  
 with, 1062.  
 —, cellulose acetate solubility in,  
 1783.  
 —, cellulose acetate solvent, 539,  
 639, 781, 996, 998, 1016, 1038,  
 2071.  
 —, cellulose acetate spinning solution  
 containing, 2098.  
 —, cellulose acetate swelling agent,  
 912.  
 —, cellulose butyrate coagulated  
 by, 259.  
 —, cellulose ether dyed using, 2255.  
 —, cellulose ether gelatinant, 2101.  
 —, cellulose ether plastic made using,  
 2635.  
 —, cellulose ether softener, 2133.  
 —, cellulose ether solvent, 50, 230,  
 2076, 2102.  
 —, cellulose formate coagulated by,  
 259.  
 —, cellulose propionate coagulated  
 by, 259.  
 —, ethylbenzylcellulose formate solvent,  
 1600.  
 —, ethylcellulose coagulated by,  
 259.  
 —, ethylcellulose solvent, 284, 1371.  
 —, fatty acid concentrated by, 764.  
 —, glass, laminated, made using,  
 2590.  
 —, lacquer containing, 2397, 2399.  
 —, lacquer, unflammable, made using,  
 670.  
 —, mfr., 1262.  
 —, paint remover made containing,  
 992.  
 —, plastic made using, 2578.  
 —, propionic acid concentrated using,  
 604.  
 —, solubilizing agent, 2212.

- Methylene chloride, uses, 1812.  
 —, viscosity cellulose acetate in, depressing, 924.  
 —, wood ether solvent, 290.  
 Methylene dianiline, amines solvent for, 2011.  
 Methylene dichloride, 1811, 1993.  
 —, cellulose ether solvent, 2078.  
 —, *see also* *Methylene chloride*.  
 Methylenediamethylate, solvent, 1801.  
 —, *see also* *Methylal*.  
 Methylene dimethyl ether, solvent, 1801.  
 —, *see also* *Methylal*.  
 Methylene disulfate, cellulose methylenated with, 1621.  
 Methylene-ethylene ether, 1857, 1874, 1886, 1894.  
 Methylene glucose, 1618.  
 Methyleneglycerol, 1857, 1874.  
 Methyleneglyceryl chlorhydrin, cellulose acetate plastifier, 508.  
 Methyleneglycol, cellulose acetate plastifier, 620.  
 Methyleneglycol oleate, stencil made using, 663.  
 —, stencil sheet made using, 663, 801.  
 Methyleneglycol ricinoleate, stencil made using, 663.  
 —, stencil sheet made using, 663, 801.  
 Methylene green, wetting agent, 2208.  
 Methylenemonocellulose, mfr. of, 252.  
 Methylene sulfate, catalyst in cellulose acetate mfr., 428, 466, 483.  
 —, cellulose methylenated with, 1621.  
 —, mfr., 466, 1262.  
 Methylenethylene glycol, *see* *Propylene glycol*.  
 Methylethenyltrichloramidine, 2015, 2022.  
 Methyl ether, *see* *Dimethyl ether*.  
 Methyl ether of ethylene glycol, 1993.  
 Methyl ether of ethyleneglycol phthalate, cellulose acetate solvent, 801.  
 Methyl ethoxyethyl ether, 1873.  
 Methyl *a*-ethoxypropionate, 1934.  
 Methylethyl acetoacetate, 1929, 1932.  
 —, camphor substitute, 2051.  
 Methylethyl acetoacetate, cellulose acetate with, as plastic, 48.  
 —, cellulose nitrate with, as plastic, 48.  
 —, ethylcellulose with, as plastic, 48.  
 —, methylcellulose with, as plastic, 48.  
 Methylethyl benzene, *see* *Ethyl toluene*.  
*o*-Methylethylbenzene, cellulose ether dyeing using, 2238.  
 —, cellulose ether solvent, 2227.  
 —, solubilizing agent, 2213, 2219.  
 Methylethylbenzylcellulose, mfr., 1289, 1592.  
 Methylethylbutylcellulose, 1610.  
 —, mfr., 1610.  
 Methyl ethylcarbamate, 1956.  
 Methyl ethyl carbinol, *see* *Butyl alcohol (sec)*.  
 Methylethylcellulose, 1288, 1289, 1606, 1607.  
 —, electrodeposition of, 103.  
 —, mfr. of, 238, 1338, 1451.  
 —, phosphoric acid in deposition of, 103.  
 —, phosphorous acid in deposition of, 103.  
 —, solubility, 1344.  
 —, stretching, 238.  
 2-Methyl-0.5-ethylcellulose, 1333.  
 Methylethylcellulose propionate, 1649.  
*tri*-Methylethylene, *see* *Pental*.  
 Methylethyleneglycol, ink containing, 2547.  
*mono*Methyl ethylene glycol, cellulose acetate solvent, 617.  
 —, cellulose ether solvent, 172.  
 Methylethylene glycol ether, cellulose acetate solvent, 665.  
 Methyl ethylenepropylenediglycol, 1847.  
 Methylethylenepropylenediglycol caprate, 1847.  
 Methyl ethylenepropylenediglycol caproate, 1848.  
 Methyl ethylenepropylenediglycol laurate, 1848.  
 Methyl ethylenepropylenediglycol linoleate, 1848.  
 Methyl ethylenepropylenediglycol oleate, 1848.  
 Methyl ethylenepropylenediglycol palmitate, 1848.

- Methyl ethylenepropylenediglycol ricinoleate, 1848.  
 Methyl ethylenepropylenediglycol stearate, 1848.  
 Methylethyl ether, 1960.  
 Methylethylglycol, cellulose ether solvent, 1809.  
 Methyl ethylhexylacetate, 630.  
 Methylethyl ketone, 49, 1084, 1877, 1878, 1882, 1883, 1888, 1907, 2006, 2026, 2321.  
 —, airplane dope containing, 442.  
 —, benzylcellulose solvent, 1555.  
 —, benzylcellulose viscosity reduced by, 224.  
 —, borated cellulose made using, 490.  
 —, brush lacquer containing, 464.  
 —, cellulose acetate solvent, 566, 813, 1000.  
 —, cellulose acetate spinning solution containing, 2098.  
 —, cellulose ether solvent, 52, 2471.  
 —, dilution ratio, 1786, 1787.  
 —, ethylcellulose solvent, 1349.  
 —, ethylcellulose viscosity reduced by, 224.  
 —, film made using, 2505.  
 —, mfr., 573.  
 —, methylcellulose viscosity reduced by, 224.  
 —, physical constants, 1792.  
 —, viscosity of, 1357.  
 —, wool cleaned with, 185.  
 Methylethylketone-glycerol, cellulose ether plasticizer, 97.  
 Methylethyl ketoxime, 1887.  
 Methylethylphenyl sulfonate, 2034.  
 Methylethylphenyltolyl urea, 2030.  
 Methylethyl pinacolate, mfr., 895.  
*b-Methyl-b-ethyl propionic acid, see Caproic acid.*  
 Methylethylpropylcellulose, mfr., 1610.  
*4-Methyl-3-ethyl pyridine, see Colidine.*  
 Methyl ethyl sulfate, mfr., 1280, 1289.  
 —, properties, 1290.  
 o-Methylethylsulfonamide, 2029.  
 —, cellulose acetate plastifier, 521.  
 p-Methylethylsulfonamide, 2029.  
 —, cellulose acetate plastifier, 521.  
 Methylethyl sulfone, 39, 2001.  
 —, cellulose acetate solvent, 509.  
 —, cellulose nitrate solvent, 509.  
 Methyleugenol, cellulose ester softener, 970.  
 Methyl flax, mfr. of, 293.  
 Methyl fluor-myristate, 1941.  
 Methyl fluor-palmitate, 1941.  
 Methyl fluor-stearate, 1941.  
 1-Methyl-2-fluortriacetylfructose, 1506.  
 —, mfr. of, 259.  
 Methyl formanilid, 1956.  
 Methyl formate, 389, 1909, 2007, 2392.  
 —, acetic acid mfr. using, 633, 771.  
 —, cellulose acetate solvent, 395, 396, 549, 699, 813.  
 —, cellulose ether solvent, 54, 186, 2089.  
 —, cellulose formate solvent for, 396.  
 —, cellulose nitrate solvent for, 396.  
 —, engine fuel containing, 1910.  
 —, hollow filaments produced using, 2365.  
 —, mfr., 454, 587, 597.  
 Methyl formyl naphthoate, cellulose acetate plastifier, 550.  
 Methyl formylxyoleate, 1939.  
 Methyl formyl-oxystearate, 1939.  
 —, camphor substitute, 2051.  
 Methyl formyl-ricinoleate, 1939.  
 —, camphor substitute, 2051.  
 Methyl formyl salicylate, 1963, 2027.  
 —, camphor substitute, 2051.  
 —, cellulose acetate plastifier, 550.  
 Methylformyltrichloronitroanilid, 2022.  
 Methylfructose, hydrolysis, 1320.  
 3-Methylfructose, 1507.  
 6-Methyl- $\alpha$ -fructose, 1505.  
 6-Methyl- $\beta$ -fructose, 1505.  
 Methylfructoside, 2, 1507.  
 a-Methylfructoside, 1507.  
 —, methylated, 1506.  
 b-Methylfructoside, 1506, 1507.  
 b-d-Methylfucoside, 1498.  
 b-l-Methylfucoside, 1498.  
 a-Methylfurane, 1995.  
 Methylfurfural, 1146.  
 —, anthracene condensed with, 181.  
 —, carbazole condensed with, 181.  
 —, dispersing agent, 2452.  
 —, naphthalene condensed with, 181.  
*Methylfurfuraldehyde, see Methylfurfural.*

- Methyl furoate, 2000.  
—, constants, 1997.  
—, dilution ratios, 1997.  
—, solubility resins in, 1997.  
Methyl furoylacetate, cellulose acetate softener, 733.  
6-Methylgalactose, 1502.  
Methylgalactoside, 2, 1507.  
—, mfr. of, 42.  
*a*-Methylgalactoside, 1502, 1503.  
*b*-Methylgalactoside, ringstructure of, 294.  
*b*-Methylgalactoside-2.3.4-triacetate, mfr. of, 294.  
*b*-Methylgalactoside-2.3.4-tribenzoate, mfr. of, 294.  
*b*-Methylgalactoside-6-triphenylmethyl ether, 1502.  
—, mfr. of, 294.  
1-*b*-Methyl gentiobiose, mfr. of, 302.  
1-*b*-Methylgentiobioside heptacetate, 1501.  
1-*b*-Methylgentiobioside heptabenzoate, 1501.  
—, mfr. of, 302.  
Methylglucoheptoside, 2.  
*b*-Methyl-*a*-glucoheptoside, 1507.  
Methylglucose, 2.  
2-Methylglucose, 205, 1329, 1508.  
3-Methylglucose, 1507.  
4-Methylglucose, 1508.  
6-Methyl-*d*-glucose, 1508.  
*mono*Methylglucose, 31.  
Methylglucoside, 37, 79, 80, 545, 1127, 1128, 1129, 1306, 1508, 2621.  
—, benzyl ether of, 69.  
—, mfr. of, 79.  
—, methylated, 1320.  
*a*-Methylglucoside, 2, 74, 856, 1103, 1129, 1507, 1509.  
—, benzylation, 1517.  
*ab*-Methylglucoside, 1322.  
*b*-Methylglucoside, 2, 1103, 1507.  
*v*-Methylglucoside, methylated, 43.  
*x*-Methylglucoside, mfr. of, 69.  
Methylglucoside trimethyl-6-phosphoric acid, 81.  
1-*b*-Methyl-6-*a*-glucosidogluco-  
se, 1501.  
—, mfr. of, 302.  
Methyl glutarate, 1953.  
Methyl *d*-glycerate, 1954.  
*mono*Methyl-glycerol, cellulose  
ether solvent, 172.  
Methylglycerylchlorhydrin, 1857.  
—, cellulose acetate plastic, 444.  
Methylglycerylchlorhydrin, cellu-  
lose acetate plastifier, 508.  
Methylglycidic acid, cellulose ace-  
tate dyed using, 493.  
—, cellulose ether dyed using, 2271.  
*Methyl glycine*, see *Sarcosine*.  
*Methylglycocynamidine*, see *Crea-  
tinine*.  
*Methylglycocynamine*, see *Creatine*.  
Methylglycol, 1850, 1854, 1906,  
1968, 1982.  
—, cellulose ester solvent, 57.  
—, cellulose ether coagulation pre-  
vented by, 288.  
—, cellulose ether softener, 2134.  
—, cellulose ether solvent, 57.  
—, cloth, tracing, made using, 163,  
706, 2542.  
—, flash point, 2061.  
—, lacquer mfr. using, 2394.  
—, methylcellulose coagulation  
prevented by, 288.  
—, methylin solvent, 276.  
—, see also *Ethyleneglycol mono-  
methyl ether*, *Propylene glycol*.  
Methylglycol acetate, 1565, 1566,  
1589, 1876, 1897, 1976.  
—, cellulose ether softener, 2217.  
—, cellulose ether solvent with, di-  
oxane, 124.  
—, cloth, tracing, made using, 2542.  
—, ethylbutylcellulose solvent, 288.  
—, ethylbutylcellulose and for lac-  
quer mfr., 2426.  
—, ethylpropylcellulose solvent,  
288.  
—, flash point, 2061.  
—, lacquer mfr. using, 2394.  
—, methylbutylcellulose solvent,  
288.  
—, methylbutylcellulose and for  
lacquer mfr., 2426.  
—, methylpropylcellulose solvent,  
288.  
—, plastic made containing, 2565.  
—, wire coated with, 2554.  
Methylglycol chloracetate, 1919.  
Methylglycol ether, methylcellulose  
coagulant, 1460.  
*mono*Methyl glycol ether, 885.  
Methylglycol-ether-lignin, 1629.  
Methyl glycollate, 1693, 1941.  
—, cellulose acetate lacquer con-  
taining, 646.  
—, cellulose ester plasticizer, 169.  
—, cellulose ether plasticizer, 169.

- Methyl glycollate, methylcellulose plasticizer, 169, 202.  
—, cellulose nitrate lacquer containing, 646.  
Methylglycollic acetate, tracing cloth made with, 163.  
Methyl glycollic hydrochloric acid, 1629.  
Methylglycol lignin, mfr., 276.  
Methylglycol-lignin nitrate, 1628.  
Methylglycol monoacetate, cellulose acetate softener, 1074.  
Methylglycol phosphate, 1897.  
Methylglycol phthalate, 1975.  
Methylglycoside, mfr., 800.  
*Methylglyoxalidine*, see *Lysidine*.  
Methyl hemp, mfr. of, 293.  
Methylheptamethylmaltoide, 1509.  
Methyl hexahydrobenzoate, 1965.  
—, see also *Methyl naphthenate*.  
*Methylhexahydrophenol*, see *Methylcyclohexanol*.  
Methylhexalin, benzylcellulose plastifier, 1576.  
—, butylcellulose with, 1340.  
—, see also *Methyl cyclohexanol*.  
Methylhexalin acetate, 1990.  
—, properties, 698.  
Methyl hexamethyldixylobionic acid, 974.  
*b*-Methylhexoside, 1506.  
Methyl-*n*-hexylamine, 1747.  
Methylhexyl glutarate, 1953.  
Methylhexyl ketone, 1877.  
—, see also *Caprylic aldehyde*.  
Methylhexyl *b*-methyladipate, 1953.  
Methyl hippurate, 1952.  
Methylhodoese, 1498.  
Methylhydrocellulose, 75, 127, 1316.  
Methyl hydrogen sulfate, 1264.  
*Methyl hydroxide*, see *Methyl alcohol*.  
Methyl hydroxybenzoate, 1962.  
Methyl *a*-hydroxyisobutyrate, cellulose acetate solvent, 2401.  
—, cellulose ether solvent, 2401.  
—, cellulose nitrate solvent, 2401.  
—, mfr. of, 2401.  
Methyl *b*-hydroxypropionate, 1933.  
Methylhydroxypropylcellulose, mfr., 1612.  
*N*-Methyl-4-hydroxy-2-quinoline, cellulose acetate dyed using, 881.  
Methylin, 1629.  
—, lacquer containing, 2397.  
—, see also *Methylglycol lignin*.  
*Methyl indol*, see *Skatol*.  
2-Methylindol, cellulose ether dyed using, 148, 2261.  
*mono*Methylin-pyruvate, cellulose ester combined with as varnish, 202.  
—, cellulose ether combined with as varnish, 202.  
*mono*Methylin-salicylate, cellulose ester combined with as varnish, 202.  
—, cellulose ether combined with as varnish, 202.  
*mono*Methylin tartrate, cellulose acetate plastifier, 971.  
—, cellulose ester combined with as varnish, 202.  
—, cellulose ether combined with as varnish, 202.  
Methylinulin glycollate, 56, 57.  
Methyl iodide, 91, 123, 161, 205, 1164, 1255, 1472, 1811.  
—, cellulose acetate solvent, 549.  
—, cellulose alkylated with, 293.  
—, flax alkylated with, 293.  
—, hemp alkylated with, 293.  
—, inflammability, 1256.  
—, jute alkylated with, 293.  
—, linen alkylated with, 293.  
—, mfr., 549, 1255.  
—, methylation with, 1249.  
—, methyl starch solvent, 1473.  
—, properties, 1255.  
—, solubility, 1276.  
—, uses, 1256.  
Methylisoeugenol, cellulose ester softener, 970.  
Methylisothiocyanate, 2627.  
—, see also *Methyl mustard oil*.  
Methyl jute, mfr. of, 293.  
Methyl ketone, 2041.  
5-Methylketose, 280.  
Methyl lactate, 885, 1846, 1942, 1944, 1945, 1946, 1952, 2321.  
—, benzylcellulose solvent, 1553.  
—, cellulose acetate precipitated by, 1043.  
—, cellulose ether solvent, 93.  
—, mfr., 422.  
Methyl levulinate, 1934.  
Methyl-lichenin, 1164.  
Methyl lignin, 79, 131, 189, 1631.  
—, analysis of, 130.  
—, cleavage of, 252.  
—, hydrolysis of, 252.  
—, mfr. of, 230, 233, 296, 1623.  
—, methoxyl content of, 130.

- α*-Methyl-lignin, 1632.
- Methyl-ligninsulfonic acid, methylated, 1633.
- Methyl linen, mfr. of, 293.
- Methyl linoleate, 1938.
- Methyl-lyxofuranoside, 1499.
- Methyl-lyxopyranoside, 1499.
- α*-Methyl-lyxoside, 1499.
- Methyl malate, 1952.
- Methyl maleate, 1952.
- , glycerol condensate with, 200.
- , glycol condensate with, 200.
- Methyl malonate, 1948.
- Methylmaltoside, 1509.
- Methyl *p*-mandelate, 1967.
- α*-Methylmannoside, 842, 1102, 1503, 1504, 1507.
- , mfr. of, 42.
- v*-Methylmannoside, 1503.
- α*-Methylmannoside tetracetate, 842.
- Methyl margarate, cellulose ether coagulant, 2097.
- 5-Methylmercaptobenzothiazole, benzylcellulose stabilizer, 1565.
- , cellulose ether softener, 2217.
- , ethylcellulose stabilizer, 1565.
- , stabilizer, 1565.
- Methyl mesitylenate, 1952.
- Methylmethenyltrichloramidine, 2019.
- Methyl *p*-methoxybenzoate, 1966.
- Methylmethoxypropionic ester, 1954.
- Methyl *α*-methyladipate, 1953.
- Methyl *b*-methyladipate, 1953.
- Methylmethyl carbamate, cellulose acetate plastifier, 1008.
- Methylmethylenecellulose, mfr. of, 212.
- Methyl 1,4-methylene-1,2,3,4-tetrahydrophthalate, 1977.
- 2-Methylmethylglucoside, 1508.
- 3-Methyl-B-methyl-6-glucoside, 1508.
- Methylmethyloxyphenol sulfonate, 2034.
- Methyl methylpropylacetate, 1916.
- Methyl mucate, 1952.
- Methyl mustard oil, 1641.
- , *see also* Methyl thiocarbamide.
- Methylnaphthalene, cellulose ether plastic with, 64.
- , plastic containing, 2568.
- , resinous products from, 1572.
- α*-Methylnaphthalene, cellulose nitrate with, 1808.
- b*-Methylnaphthalene, cellulose nitrate with, 1808.
- Methyl naphthenate, 1965.
- , acetic acid extracted using, 1016.
- Methylnaphthol, cellulose acetate plastifier, 452.
- Methyl 1,4-naphtholcarboxylate, 1088.
- b*-Methylnaphthoxyethyl phthalate, 1977.
- Methylnaphthoyl benzoate, 2630.
- Methylnaphthylamine, 2014.
- Methyl-2-naphthylamine, cellulose ether dyed using, 275.
- Methyl-1-naphthylamine-8-sulfonate, cellulose ether dyed using, 2273.
- Methylnaphthyl ether, 1871.
- Methyl *b*-naphthyl ether, 1969.
- Methylnaphthyl ketone, 1888.
- Methylnaphthyl sulfonate, 2034.
- Methylnaphthylurea, 2029.
- Methyl nitrate, 1908, 1956, 1962.
- , cellulose ether solvent, 1841.
- Methyl nitrite, 1908.
- Methyl nitrobenzoate, 1964.
- , cellulose acetate solvent, 1818, 1819.
- Methylnitronaphthyl sulfonate, 2034.
- Methylnitrotolyl sulfonate, 2034.
- Methyloctamethyl 4-*b*-glucosidomannonate, 1503.
- , hydrolysis of, 279.
- Methyloctamethyl-lactobionate, 1502.
- Methyloglycogen, 1495.
- Methyl oleate, 1938, 1954, 1964.
- , cellulose acetate, 876.
- , cellulose acetate solvent, 1818, 1819.
- , cellulose ester coagulated by, 133.
- , cellulose ether coagulated by, 133, 170, 2086, 2097.
- , delustring with, 2187.
- , filament cleaned by, 257.
- , film cleaned by, 257.
- , lacquer containing, 2544.
- , ribbon cleaned by, 257.
- , rubber solvent, 876.
- , thread cleaned by, 257.
- Methylolurea, lacquer containing, 2422.

- Methyl orange, amines solvent for, 2011.  
 Methylostarch, mfr., 81.  
 Methyl oxalate, 1942, 1944, 1947, 1948, 1952.  
 —, cellulose acetate plastifier, 337.  
 —, cellulose acetate precipitated by, 1043.  
 —, cellulose ether solvent, 93.  
 Methyl oxamate, 1948.  
 Methyl-*p*-oxy-benzaldehyde, *see* Anisic aldehyde.  
 Methyl oxybutyrate, 885, 1993, 2321.  
 Methyl oxynaphthylamine, 1979.  
 Methyloxynaphthyl ketone, 1888.  
 Methyl palmitate, 1938, 1944, 1957.  
 —, cellulose ester coagulated by, 133.  
 —, cellulose ether coagulated by, 133, 170, 2086, 2097.  
 —, delustring with, 2187.  
 —, properties, 732.  
*mono*Methylpentaerythrite, cellulose ether solvent, 222.  
 2,2-(Methylpentamethylene-4-oxy-methyldihydrodioxol, 1945.  
 Methyl 3,3-pentamethyl-5-hydroxy-methyldioxole, 2629.  
 4-Methyl-2-pentanol acetate, 1920.  
 2-Methylpentan-(2)-on-4-, *see* Mesityl oxide.  
 4-Methyl-3-pentenone, *see* Mesityl oxide.  
 Methylpentose, 1178.  
 Methylpentoside, 545.  
 Methylpentyl ketone, 1877.  
 Methylphenanthrylurea, 2029.  
 Methyl-phenol, *see* Cresol.  
 Methylphenoldisulfonic acid, cellulose ester coagulant for, 226.  
 —, cellulose ether coagulant for, 226.  
 Methylphenolsulfonic acid, cellulose ester coagulant for, 226.  
 —, cellulose ether coagulant for, 226.  
*b*-Methylphenoxyethyl laurate, 1977.  
 Methylphenoxyethyl phthalate, 1977.  
 Methyl phenoxyacetate, 1942.  
 Methyl phenylacetate, 1954.  
 —, cellulose acetate solvent, 1818, 1819.  
 Methylphenylacetamide, *see* Exalgine.  
 Methylphenylamine, solubility organic compounds for, 2007.  
 Methylphenylcellulose, mfr., 1612.  
 Methylphenylchlorophenyl phosphate, 1898.  
*mono*Methylmonophenylmonochlorophenyl phosphate, benzylcellulose plasticizer, 167.  
 —, ethylcellulose plasticizer, 167.  
 Methyl-5-phenyl-4,6-dicarboxyethyl *d*<sub>2</sub>-keto-R-hexane, 1980.  
 3-Methyl-5-phenyl-4,6-dicarboxyethyl-keto-R-hexane, 1932.  
 Methylphenyldimethylpyrazolon, 1965.  
 Methylphenyl ether, 1870, 1872.  
 —, *see also* Anisol.  
 Methylphenylethylene oxide, 1381.  
 —, carbohydrates compound with, 64.  
 —, cellulose compound with, 64.  
 —, dextrin compound with, 64.  
 —, starch compound with, 64.  
 —, sugar compound with, 64.  
 —, tragacanth compound with, 64.  
 Methylphenylethyl ketone, 1890.  
 Methyl-phenylglycine, 1893.  
 Methylphenyl ketone, cellulose ether solvent, 2076.  
 —, *see also* Acetophenone.  
 Methyl phenylmalonate, 1952.  
 Methylphenyl sulfonate, 2034.  
 Methylphenyl sulfone, 2001.  
 Methylphenyl urea, 2029.  
 Methylphenyl urethane, 1956.  
 Methyl phosphate, 1952.  
 Methyl phthalamine, 1978.  
 Methyl phthalate, 1794, 1862, 1930, 1944, 1952, 1967, 1968, 2028, 2041.  
 —, cellulose acetate plastifier, 337.  
 —, cellulose acetate solubility in, 1042.  
 —, cellulose acetate solvent, 453, 813, 1067.  
 —, cellulose acetate solvent mixture containing, 574.  
 —, delustring with, 210, 2189.  
 —, glycerol condensate with, 200.  
 —, glycol condensate with, 200.  
 Methyl *o*-phthalate, 1988.  
 —, acetic acid extracted using, 1016.  
 Methyl phthalonate, 1978.  
 Methyl phthanilate, 1978.  
 Methyl pimelate, 1939.  
 Methylpiperidine, 1730, 1741, 1747.  
 —, cellulose combined with, 228.

- Methylpiperidine, cellulose acetate hydrolyzed using, 958.  
—, esterifying in presence of, 865.  
*N*-Methylpiperidine, 1750.  
*Methyl-p-propenyl-phenol*, see *Anethol*.  
Methyl propionate, 1932, 1935.  
—, cellulose ether solvent, 53.  
—, engine fuel containing, 1910.  
—, ethyl alcohol and, cellulose ether solvent, 97.  
—, methyl alcohol and, cellulose ether solvent, 97.  
—, propyl alcohol and, cellulose ether solvent, 97.  
Methyl-*n*-propionate, flash point, 2061.  
Methylpropionylanilid, 2026.  
Methyl propionyl naphthoate, cellulose acetate plastifier, 550.  
Methyl propionyl-oxyoleate, 1939.  
Methyl propionyl-oxystearate, 1939.  
—, camphor substitute, 2051.  
Methyl propionyl-ricinoleate, 1939.  
—, camphor substitute, 2051.  
Methyl propionyl-salicylate, 1963, 2027.  
—, camphor substitute, 2051.  
—, cellulose acetate plastifier, 550.  
Methyl *a-n*-propoxypropionate, 1934.  
Methylisopropylbenzene, 1805.  
*p*-Methylpropylbenzene, see *Cymene*.  
*Methyl-n-propyl carbinol*, see *Amyl alcohol*.  
Methylpropylcellulose, mfr., 1338, 1606.  
—, lacquer containing, 288.  
—, mfr. of, 238.  
2-Methyl-5-propylcyclohexanone, 1988.  
3-Methyl-5-*iso*-propyl cyclohexanone, camphor substitute, 2052.  
Methyl propylene glycol, 1853.  
—, cellulose acetate plastifier, 620.  
*mono*Methylpropyleneglycol, cellulose acetate solvent, 968.  
—, cellulose nitrate solvent, 968.  
Methylpropylene glycol ether, cellulose acetate solvent, 665.  
Methylpropyl ether, 1290.  
1-Methyl-4-*isopropyl*-3-hydroxybenzene, 2048.  
Methylpropyl ketone, 1877, 1878.  
—, cellulose ether solvent, 52.  
Methyl propyl ketone, ethylcellulose solvent, 1349.  
—, viscosity of, 1357.  
Methylisopropyl ketone, 1882.  
Methylisopropyl ketoxime, 1887.  
Methyl-*n*-propyl ketoxime, 1887.  
Methylpropyloxyphenyl sulfonate, 2034.  
2-Methyl-5-*isopropyl*phenol, 1861.  
3-Methyl-6-*isopropyl*phenol, 1861.  
*Methyl propylphenyl hexahydride*, see *Menthol*.  
Methylpropyl propionate, 1916.  
Methylpropyl sulfate, mfr., 1286, 1290.  
*Methylprotocatechuic acid*, see *Vanillic acid*.  
*Methylprotocatechuic aldehyde*, see *Vanillin*.  
3-Methyl-5-pyrazolone, cellulose ether dyed using, 2251.  
Methylpyridine, 1730, 2032.  
—, celluloid solvent, 890.  
—, cellulose acetate dyed using, 2235.  
—, cellulose acetate solvent, 890, 1785.  
—, cellulose ether dyeing using, 2237.  
*a*-Methylpyridine, see *Picoline*.  
Methylpyridinecarboxylic acid, 1730.  
*Methylquinoline*, see *Lepidine*.  
*a*-Methyl-quinoline, see *Quinaldine*.  
Methylraffinose, 1506.  
*Methylresorcin*, see *Orcin*.  
Methylrhamnoside, 2, 1498.  
Methyl ricinoleate, 1938.  
Methyl rubber W, lacquer containing, 2399.  
Methylsaccharose, mfr. of, 102.  
Methyl salicylate, 403, 1904, 1944, 1952, 1960, 1962, 1963.  
—, celluloid solvent, 890.  
—, cellulose acetate plasticizer, 375.  
—, cellulose acetate solvent, 890, 1785, 1818, 1819.  
—, cellulose ether solvent, 51.  
—, methyl sulfate in mfr. of, 1264.  
Methyl sebacate, 1939.  
—, cellulose acetate plasticizer, 342.  
Methyl silicate, 1909, 1982, 2058, 2163.  
—, melting point of, cellulose acetate raised by, 762.  
Methylsorboside, 2.  
Methylstarch, 30, 1489.



- Methylstarch, applications, 1488.  
—, mfr. of, 100, 101, 1486.  
—, solvent for, 1473.  
—, tumors treated with, 2447.  
—, uses, 1488.  
Methylstarch glycollate, 56, 57, 1489.  
Methyl stearate, 1938, 1944, 1957.  
—, cellulose ester coagulated by, 133.  
—, cellulose ether coagulated by, 133, 170, 2086, 2097.  
—, coating containing, 201.  
—, delustring with, 2187.  
—, filament cleaned by, 257.  
—, film cleaned by, 257.  
—, properties, 732.  
—, ribbon cleaned by, 257.  
—, thread cleaned by, 257.  
Methylstyrene, 1889.  
Methylstyryl ketone, 1889, 1890.  
—, *see also* Benzylidene acetone.  
Methyl suberate, 1939.  
Methyl succinate, 1949, 1952, 1967.  
—, cellulose acetate precipitated by, 1043.  
—, glycerol condensate with, 200.  
—, glycol condensate with, 200.  
*Methylsuccinic acid, see Pyrotartaric acid.*  
Methyl succinylsuccinate, 1952.  
Methyl sulfate, 4, 32, 35, 36, 56, 57, 73, 74, 76, 78, 79, 123, 124, 145, 161, 170, 209, 279, 1164, 1425, 1537, 1625, 1654, 1731, 2627.  
—, catalyst in acetylating, 350.  
—, catalyst in cellulose acetation, 979.  
—, catalyst in cellulose acetate mfr., 345.  
—, cellulose alkylated with, 293.  
—, cellulose methylated by, 24, 25.  
—, etherifying with, 39, 1417.  
—, flax alkylated with, 293.  
—, hemp alkylated with, 293.  
—, hydrolysis, 1265.  
—, jute alkylated with, 293.  
—, linen alkylated with, 293.  
—, mfr., 1256, 1262.  
—, methylation by, 28, 29, 1250.  
—, methylbenzylcellulose made with, 58.  
—, properties, 1262, 1263.  
—, starch methylated using, 1473.  
—, toxicity, 1265.  
—, uses, 1263.  
—, *see also* Dimethyl sulfate.  
Methylsulfatoethylaniline, cellulose acetate dyed using, 612.  
Methyl-sulfonic acid, cellulose acetate dyed, 540.  
—, cellulose acetate toughened by, 866.  
—, cellulose ether strengthened by, 2135.  
Methyl sulfuric acid, 1257, 1261.  
—, *see also* Methyl hydrogen sulfate.  
Methyl tartrate, 1944, 1952.  
—, cellulose acetate precipitated by, 1043.  
—, cellulose acetate swelled by, 553.  
*Methyltheobromine, see Caffeine.*  
Methylthiocellobiose hepta-acetate, 733.  
Methylthiocellobioside, 733.  
*Methyl thiocyanate, see Methyl sulfocyanate.*  
Methyl thioglycollate, 1941.  
—, cellulose ester plasticizer, 169.  
—, cellulose ether plasticizer, 169.  
—, methylcellulose plasticizer, 169.  
Methyl toluate, 1952.  
Methyl-*p*-toluenesulfamide, 1075.  
Methyl-*p*-toluenesulfanilide, 2025.  
Methyltoluenesulfonamide, 1968, 2089.  
—, hollow filaments produced using, 2365.  
Methyl *p*-toluene sulfonamide, delustring with, 2188.  
*N*-Methyl toluenesulfonanilid, cellulose acetate plasticizer, 742.  
*N*-Methyl-*o*-toluene-sulfonanilid, cellulose ether plastifier, 175.  
Methyl *p*-toluenesulfonate, 1255, 1571, 1652, 2035, 2042.  
—, benzylcellulose with, 1571.  
—, cellulose acetate plastifier, 337.  
—, cellulose etherified using, 1298.  
—, cellulose ether plastic with, 64.  
Methyltoluenesulfone, cellulose acetate plasticizer, 464.  
—, cellulose ether softener, 80.  
Methyl-*o*-toluenesulfonic acid, cellulose ether plasticizer, 174.  
Methyl *p*-toluenesulfonic acid, cellulose ether plasticizer, 174.  
Methyl-*o*-toluidid cresoxyacetate, 2021.  
Methyl-*o*-toluidine, 2014.  
Methyl-*p*-tolyl ketone, celluloid solvent, 890.

- Methyl-*p*-tolyl ketone, cellulose acetate solvent, 890, 1785.  
Methyl tolyl sulfide, celluloid solvent, 890.  
—, cellulose acetate solvent, 890, 1785.  
Methyltolyl sulfonate, 2034.  
Methyltolyl sulfone, 2001.  
Methyl triacetyloxystearate, camphor substitute, 2052.  
Methyl tribenzoyloxystearate, camphor substitute, 2052.  
Methyl 2,4,6-trichlorophenoxyacetate, 1991.  
Methyltriethylammonium iodide, 1749.  
—, cellulose etherified using, 274.  
Methyl triethylene glycol, 1846.  
Methyltriethyleneglycol caprate, 1847.  
Methyl triethyleneglycol caproate, 1848.  
Methyl triethyleneglycol laurate, 1848.  
Methyl triethyleneglycol linoleate, 1848.  
Methyl triethyleneglycol oleate, 1848.  
Methyl triethyleneglycol palmitate, 1848.  
Methyl triethyleneglycol ricinoleate, 1848.  
Methyl triethyleneglycol stearate, 1848.  
Methyl triformyloxystearate, camphor substitute, 2052.  
Methyl trimesate, 1952.  
Methyl trimethoxybutyrate, 1497.  
Methyl-2,3,4-trimethoxy-*d*-erythronate, 1497.  
Methyltrimethyl-1-arabinose, 1499.  
Methyl tripropionyloxystearate, camphor substitute, 2052.  
*Methyluramine*, see *Methylguanidine*.  
Methylurea, 1877, 2027, 2038.  
—, ethylcellulose gelatinizer, 48.  
—, record, phonograph, made using, 2605.  
*mono*Methyl urea, cellulose acetate plastifier, 634.  
—, cellulose acetate solvent, 453.  
Methylurea nitrate, 2031.  
*Methylurethane*, see *Urethylene*.  
Methylvaleral, 1877.  
Methyl valerianate, 1937, 1938.  
Methyl valerianate, cellulose ester lacquer containing, 486.  
—, see also *Methyl valerate*.  
Methylvalerylanilid, 2026.  
Methyl violet, 1985.  
—, benzylcellulose dyed by, 62.  
—, cellulose ester dyed by, 62.  
—, cellulose ether dyed using, 2225.  
—, ethylcellulose dyed by, 62.  
—, methylcellulose dyed by, 62.  
Methyl Violet B, lacquer, colored, made using, 2417.  
Methyl Violet 6B, cellulose ether dyeing using, 2237.  
Methyl violet 6B base, cellulose acetate dyed using, 530.  
Methyl xanthogenate, 127.  
Methylxylan, 78.  
Methylxylenesulfonamide, 1080.  
Methyl *p*-xylene sulfonamide, delustring with, 2188.  
*mono*Methylxylenesulfonamide, cellulose ether plasticizer, 176.  
—, mfr., 493.  
Methylxylenesulfone, cellulose acetate plasticizer, 464.  
—, cellulose ether softener, 80.  
*b*-Methylxylenoxyethyl phthalate, 1977.  
*mono*Methylxylinide, cellulose xanthate dissolved by, 132.  
Methylxyloside, 2.  
—, mfr. of, 79.  
*a*-Methylxyloside, 1501.  
*b*-Methyl-*d*-xyloside, 1501.  
*a*-Methyloxyloside tetra-acetate, 1501.  
*b*-Methylxyloside tetra-acetate, 1501.  
Methylxylylcellulose, mfr., 1612.  
Methyl-*p*-xylylcellulose, 1612.  
Methylxylyl sulfonate, 2034.  
Methylxylyl sulfone, 2001.  
Methylzinc ethylate, cellulose ether combined with, 272.  
—, delustring with, 2181.  
Methylzinc iodide, ethyl chloride made using, 1267.  
Methylzinc methylate, cellulose ether combined with, 272.  
—, delustring with, 2181.  
*Metozine*, see *Antipyrin*.  
Mialke's anaesthetic ether, 1815.  
Mica, 1089.  
—, cellulose acetate plastic containing, 384, 678.

- Mica, cellulose ether combined with, 2417.
- , cellulose ether plastic containing, 150.
- , fabric lustred by, 342.
- , lacquer and cellulose ether with, 153.
- , mouthpiece, cigarette, foil made using, 732.
- , plaster and cellulose ether with, 153.
- , plastic made containing, 2564.
- , putties and cellulose ether with, 153.
- , record, phonograph, made using, 822, 2604.
- , synthesis, pearl, using, 2611.
- Michler's ketone*, see *Tetramethyldiamino-benzophenone*.
- Microcosmic salt*, see *Sodium ammonium hydrogen phosphate*.
- Microphone, cellulose acetate in mfr. of, 543.
- , electrodynamic, cellulose acetate in mfr., 973.
- Milanese, filaments of, properties, 656, 657.
- , properties, 656, 657.
- Milanese cloth, 628.
- , mfr. of, 2380.
- Mildewing effect, 1861.
- Mildewproofing, 2201.
- Milk, dialysis of, cellulose acetate for, 541.
- Milk bottle, pulp, ethylcellulose acetate in mfr., 1669.
- , —, ethylcellulose acetate for waterproofing, 139.
- Milk sugar, 314.
- , see also *Lactose*.
- Milori blue, lacquer containing, 2428.
- , printing, intaglio, made using, 2551.
- Mimeographing, sheets for, mfr., 2486.
- Mineral jelly*, see *Vaseline*.
- Mineral oil, alkyl cellulose with for treating leather, 193.
- , delustring with, 2181.
- , dimethylcellulose with for treating leather, 193.
- , emulsion containing, 2467.
- , film made using, 1074.
- , scroop imparted by, 2203.
- , stencil sheet made using, 2495.
- , tanning with, 2467.
- Mineral oil*, see also *Paraffin*; *Vaseline*.
- Mineral sulfonate, wetting agent, 2207.
- Mining cartridge*, see *Cartridge*.
- Mirbane oil, 2002.
- Mission leather*, see *Leather, mission*.
- Mittel A. E. F., 2034.
- Mittel A. E. P., see *Ethyl toluene sulfonate*.
- Mittel H. N. A., see *Acetophenone*.
- Mittel K. P., see *Cresyl toluene sulfonate*.
- Mittel P. I., see *p-Toluenesulfanilid*.
- Mittel P. O., see *p-Toluene methyl sulfanilid*.
- Modern Heliotrope DH, cellulose ether dyed by, 142.
- Modified starch*, see *Starch, soluble*.
- Mohair, filaments from, mfr., 1000.
- Moire, patterns, cellulose acetate, 893.
- Moire effect, producing, 2341.
- , producing on cellulose ether, 111.
- Moire fabric, 2341.
- Moire francaise, producing, 2342.
- Moire renaissance, producing, 2342.
- Moisture, determination, cellulose ether, 2651.
- Molasses, cellulose acetate dyed using, 672.
- , cellulose ether precipitant, 2086.
- , cellulose ether strengthened by, 255.
- , nitrated, 2005.
- , spinning in presence of, 1070.
- Mold, cellulose acetate coated, 652.
- , cellulose ester for mfr. of, 166.
- , cellulose ether for mfr. of, 166.
- Molding, injection, cellulose acetate 1043.
- Molding powder, cellulose ether, 168.
- Moldite, 2567.
- Mollit I, 2030.
- , cellulose acetate solvent, 699.
- , see also *Diethyl phenyl urea*.
- Mollit II, 2030.
- Molybdate, cellulose acetate dyed using, 504.
- Molybdates, fabric, fireproof, made with, 432.
- , —, washable, made with, 432.
- , paper, fireproof, made with, 432.

- Molybdates, paper, washable, made with, 432.  
 Molybdenum chloride, benzyl chloride made using, 1293.  
 Monel metal, cellulose etherified in presence of, 55.  
*Mono derivatives, see under the Derivative.*  
*Monoacetic cellulose, see Cellulose monoacetate.*  
 Monoacetin, 1923, 1968, 2003.  
 —, cellulose acetate plasticizer, 398.  
 —, cellulose acetate softener, 1074.  
 —, cellulose acetate solvent, 813.  
 —, cellulose ether solvent, 139, 2077.  
 —, cellulose ether wetted out by, 172.  
 —, dispersing agent for, 2213.  
 —, film made using, 2509.  
 —, film curling prevented by, 532.  
 —, preparation, 970.  
 —, properties, 970.  
 —, wetting agent, 2207.  
 —, *see also Glyceryl monoacetate.*  
 Monoaceto-dipropionate, insulating with, 880.  
 Monoacetomonochlorhydrin, 1844.  
 Monoacetoneglucose, methylation of, 82.  
 Monacetonexylose, 1500.  
 Monoacetyl-*m*-aminophenol, cellulose acetate dyed using, 751.  
 Monoacetylamylaniline, cellulose acetate plastifier, 391.  
 Monoacetylamyltoluidine, 2015.  
 Monoacetylamylxylylidine, 2015.  
 Monoacetylbutylaniline, cellulose acetate plastifier, 391.  
 Monoacetylbutyl tartrate, 1951.  
 —, stencil sheet made using, 2494.  
 Monoacetylbutyltoluidine, 2015.  
 Monoacetylbutylxylylidine, 2015.  
 Mono-di-acetin, stencil sheet made using, 2491.  
 Monoacetyldimethylcellulose, 1316.  
 —, *see also Dimethylcellulose monoacetate.*  
 Monoacetyldimethylmethyllrhamnoside, 974, 1498.  
 Monoacetyldimethyl-*b*-xylochloralose, 1501.  
 Monoacetylethylaniline, 2015.  
 —, cellulose acetate plastifier, 391.  
 Monoacetylethyltoluidine, 2015.  
 Monoacetylethylxylylidine, 2015.  
 Monoacetylmethylaniline, cellulose acetate plastifier, 391.  
 Monoacetylmethyl-rhamnoside, 974, 1498.  
 Monoacetylmethyltoluidine, 2015.  
 Monoacetylmethylxylylidine, 2015.  
 Monoacetyl-*p*-phenylenediamine, 1088.  
 —, cellulose ester dyed using, 281.  
 —, cellulose ether dyed using, 281, 2266.  
 Monoacetylpropylaniline, cellulose acetate plastifier, 391.  
 Monoacetylpropyltoluidine, 2015.  
 Monoacetylpropylxylylidine, 2015.  
 Monoacetyl-*m*-phenylene-diamine, cellulose ether dyed with, 120, 241.  
 Mono-anhydromethylglucoside, mfr. of, 79.  
 Mono-alkyl ethers of ethyleneglycol, hollow filaments produced using, 2365.  
 Monoalkyl mannitol, 1974.  
 Monoalkyl pentaerythrite, 1973.  
 Monoalkyl phthalate, 1973.  
 Monoalkyl sorbitol, 1974.  
 4-Mono-alkylamino-2-hydroxybenzophenone-2'-carboxylic acid, cellulose ester dyed using, 245.  
 —, cellulose ether dyed using, 245.  
 Monoallyl cellulose, 1637, 1640.  
 Monoallyl corn starch, 1636.  
 Monoallyldextrin, 1636.  
 Monoallyl ethylene glycol, cellulose acetate solvent, 617.  
 Monoallylinulin, 1636.  
 Monoallyl potato starch, 1636.  
 Monoaminoanthraquinone, cellulose ether dyed using, 181, 2232, 2268.  
 Monoamine-5.6-benzocarbazole, 1085.  
 Mono-ammonium citrate, antacid, 1563.  
 —, benzylcellulose stabilizer, 1563.  
*Monoamyl, see Amyl, Diamyl, Triamyl.*  
 Monoamylbenzene, lacquer containing, 2393.  
 Monoamyl-diethyl phosphate, 1899.  
 Monoamylglycol ether, mfr., 567.  
 —, properties of, 567.  
 Monoamyl phthalate, lacquer containing, 2396.  
 Monoamylpropyleneglycol, cellulose acetate solvent, 968.

- Monoamylpropyleneglycol, cellulose nitrate solvent, 968.  
Monoisoamylpropyleneglycol, cellulose acetate solvent, 968.  
—, cellulose nitrate solvent, 968.  
Monoanthracene, ethylcellulose colloidized by, 222.  
Monoarylglycol ethers, 1961.  
Monoaryl mannitol, 1974.  
Monoaryl pentaerythrite, 1973.  
Monoaryl phthalate, 1973.  
Monoaryl sorbitol, 1974.  
Monoazo colors, cellulose ether dyed using, 2259.  
Monoazo compounds, nitrated, cellulose ether dyed using, 2273.  
Monoazo dye, solubilizing, 2211.  
Monobenzoin, 1925.  
Monobenzoylbutyl tartrate, 1951.  
—, stencil sheet made using, 763, 2491.  
Monobenzoyldiacetyl glycerol, 1857.  
—, cellulose acetate plastifier, 508.  
Monobenzoyl tartrate, stencil sheet made using, 2494.  
*Monobenzyl, see Benzyl, Dibenzyl, Tribenzyl.*  
Monobenzylcellulose, 1511, 1513, 1519, 1531.  
—, composition, 1524.  
—, mfr. of, 69.  
—, percentage composition, 1511.  
—, solubility, 1518.  
0.5-Monobenzylcellulose, 1515.  
Monobenzylin, 203.  
Monobenzylin acid phthalate, cellulose ester plasticizer, 203.  
—, cellulose ether plasticizer, 203.  
Monobenzylin mannitol, 1974.  
Monobenzylin oxalate, cellulose ester plasticizer, 203.  
—, cellulose ether plasticizer, 203.  
Monobenzylin phthalate, 1974.  
—, cellulose ester plasticizer, 203.  
—, cellulose ether plasticizer, 203.  
Monobenzylin sorbitol, 1974.  
Monobenzylin succinate, cellulose ester plasticizer, 203.  
—, cellulose ether plasticizer, 203.  
Monobenzylpentaerythrite, cellulose ether solvent, 222.  
Monobenzyl starch, 1516.  
—, mfr. of, 69.  
Monobenzylsucrose, mfr. of, 69.  
Monobenzyl sulfate, 1432.  
Monobenzyltrichloraniline, 2021.  
Monobromacetanilid, plastic containing, 2570.  
Monobromacetic acid, cellulose acetate made using, 771.  
—, cellulose compounds with, 161.  
Monobromallyl-*d*-glucoside, 1635.  
Monobromanthracene, cellulose acetate inflammability reduced by, 618.  
*Monobromantipyrine, see Brompyrine.*  
Monobrombenzene, 1825.  
—, cellulose acetate inflammability reduced by, 618.  
—, cellulose ether inflammability reduced by, 182.  
—, cellulose ether solvent, 53.  
—, film made using, 2510.  
Monobrom-*B*-benzoylpropionic acid, cellulose acetate dyed using, 751.  
Monobromcamphor, 1826.  
—, crystal effects produced by, 2430.  
—, cellulose ether inflammability reduced by, 182.  
—, paper coated with cellulose nitrate and, 645.  
Monobromcatechol, cellulose ether inflammability reduced by, 182.  
Monobromcresol, cellulose ether inflammability reduced by, 182.  
Monobromcumene, cellulose acetate inflammability reduced by, 618.  
—, cellulose ether inflammability reduced by, 182.  
Monobromcymene, cellulose acetate inflammability reduced by, 618.  
—, cellulose ether inflammability reduced by, 182.  
*Monobromethane, see Ethyl bromide.*  
Monobromethylbenzene, cellulose acetate inflammability reduced by, 618.  
—, cellulose ether inflammability reduced by, 618.  
Monobromethylene, 2628.  
Monobromhydroquinone, cellulose ether inflammability reduced by, 182.  
Monobrommalonic acid, 1949.  
Monobrommesitylene, cellulose acetate inflammability reduced by, 618.  
—, cellulose ether inflammability reduced by, 182.

- Monobromnaphthalene, cellulose acetate inflammability reduced by, 618.
- Monobromphenol, cellulose ether inflammability reduced by, 182.
- Monobromphenyl-diphenyl phosphate, cellulose ether plastifier, 173.
- Monobrompropionic acid, cellulose acetate made using, 771.
- , cellulose compounds with, 161.
- Monobrompropylene (g)*, see *Allyl bromide*.
- Monobrompyrogallol, cellulose ether inflammability reduced by, 182.
- Monobromresorcinol, cellulose ether inflammability reduced by, 182.
- Monobromthymol, cellulose ether inflammability reduced by, 182.
- Monobromtoluene, 1825.
- , cellulose acetate inflammability reduced by, 618.
- , cellulose ether inflammability reduced by, 182.
- , cellulose ether solvent, 54.
- Monobromxylene, cellulose acetate inflammability reduced by, 618.
- , cellulose ether inflammability reduced by, 182.
- Monobutyl*, see *Butyl*, *Dibutyl*, *Tributyl*.
- Monobutylbenzene, lacquer containing, 2393.
- Monobutylbutyltoluidine, 2015.
- Monobutylglyceryl ether, 1961.
- Monobutylglycol ether, mfr., 567.
- , properties of, 567.
- Monoisobutylglycol ether*, mfr., 567.
- , properties of, 567.
- Monobutylin, 202.
- Monobutylin-benzoylbenzoate, cellulose ester combined with as varnish, 202.
- , cellulose ether combined with as varnish, 202.
- Monobutylin-dilactate, cellulose ester combined with as varnish, 202.
- , cellulose ether combined with as varnish, 202.
- Monobutylin oxalate, cellulose acetate plastifier, 971.
- , cellulose ester combined with as varnish, 202.
- Monobutylin oxalate, cellulose ether combined with as varnish, 202.
- , lacquer containing, 2397.
- Monobutylin phthalate, cellulose acetate plastifier, 971.
- , cellulose ester combined with as varnish, 202.
- , cellulose ether combined with as varnish, 202.
- , lacquer containing, 2397.
- Monobutylin-pyruvate, cellulose ester combined with as varnish, 202.
- , cellulose ether combined with as varnish, 202.
- Monobutylin-salicylate, cellulose ester combined with as varnish, 202.
- , cellulose ether combined with as varnish, 202.
- Monobutylin tartrate, cellulose acetate plastifier, 971.
- , cellulose ester combined with as varnish, 202.
- , cellulose ether combined with as varnish, 202.
- Monobutylpentaerythrite, cellulose ether solvent, 222.
- Monobutyl phthalate, 948, 1677, 1736, 1973.
- , benzylcellulose plastifier, 1576.
- , cellulose acetate solvent, 705.
- , cellulose nitrate solvent, 705.
- , lacquer containing, 2396.
- Mono-n-butyl phthalate*, 1677.
- Monobutylphthalyl chloride, 1677.
- Monobutylpropyleneglycol, cellulose acetate solvent, 968.
- , cellulose nitrate solvent, 968.
- Monoisobutylpropyleneglycol*, cellulose acetate solvent, 968.
- , cellulose nitrate solvent, 968.
- Monobutylin, 1925, 1965.
- , cellulose acetate gelatinizer, 536.
- , cellulose acetate plastifier, 569.
- Mono-iso-butylin*, preparation, 970.
- , properties, 970.
- Mono-n-butylin*, preparation, 970.
- , properties, 970.
- Monobutyrylamylaniline, 2015.
- , cellulose acetate plastifier, 391.
- Monobutyrylamyltoluidine, 2015.
- Monobutyrylamylxylylidine, 2015.
- Monobutyrylbutylaniline, 2015.
- , cellulose acetate plastifier, 391.
- Monobutyrylbutylxylylidine, 2015.

- Monobutrylethyl aniline, 2015.  
—, cellulose acetate plastifier, 391.  
Monobutrylethyltoluidine, 2015.  
Monobutrylethylxylidine, 2015.  
Monobutrylmethylaniline, 2015.  
—, cellulose acetate plastifier, 391.  
Monobutrylmethyltoluidine, 2015.  
Monobutrylmethylxylidine, 2015.  
Monobutrylpropylaniline, 2015.  
—, cellulose acetate plastifier, 391.  
Monobutrylpropyltoluidine, 2015.  
Monobutrylpropylxylidine, 2015.  
Monocaproate, mfr., 1706.  
Mono-*n*-caproin, preparation, 970.  
—, properties, 970.  
Monocelluloseethyleneglycol xanthate, 1400.  
*α*-Monocellulose glyceryl ether xanthate, 1400.  
Monochloracetates, cellulose compounds of, 89.  
Monochloracetic acid, 912, 1643, 1697, 1722.  
—, amines solvent for, 2009.  
—, butyric anhydride made using, 771.  
—, catalyst in cellulose acetating, 351, 353.  
—, cellulose acetate hydrated by, 355.  
—, cellulose acetate made using, 771.  
—, cellulose acetate swelling agent, 728.  
—, cellulose compounds with, 161.  
—, cellulose derivatives of, 88.  
—, cellulose mixed ester made using, 942.  
—, chloracetic acid from, 211.  
—, mfr., 562, 828, 1720.  
—, propionic anhydride made using, 771.  
Monochloracetic anhydride, cellulose esterified using, 759.  
*α*-Monochloranthracene, cellulose ether combined with, 47.  
Monochlorbenzene, 1826, 1835.  
—, benzylcellulose solvent, 230.  
—, cellulose ester coagulated by, 133.  
—, cellulose ether coagulated by, 133.  
—, cellulose ether delustred by, 133.  
—, cellulose ether diluent, 156.  
—, cellulose ether precipitant, 170, 2086, 2097.  
—, cellulose ether solvent, 51, 230.  
Monochlorbenzene, cellulose laurate precipitant, 790.  
—, delustring with, 2186.  
—, ethylcellulose delustred by, 133.  
—, ethylcellulose solvent, 230.  
—, fabric coated using, 2485.  
—, plastic containing, 879.  
*Monochlorbenzol*, see *Monochlorbenzene*.  
Monochlor-*B*-benzoylpropionic acid, cellulose acetate dyed using, 751.  
Monochlorbenzylcellulose, composition, 1525.  
Mono-*o*-chlorbenzylcellulose, 1533.  
—, mfr., 1532.  
—, solubility, 1532.  
Monochlordimethyl sulfate, 212.  
—, alkalicellulose treated with, 301.  
—, cellulose methylethylene ether made using, 1621.  
—, etherifying with, 301.  
Monochlorethane, 1815.  
—, see also *Ethyl chloride*.  
*Monochlorethyl alcohol*, see *Ethylene chlorhydrin*.  
Monochlorethylene, 1821.  
*Monochlorethylene chloride*, see *Trichlorethane*.  
*Monochlorethylidene dichloride*, see *Methyl chloroform*.  
Monochlorhydrin, 548, 1768, 1839, 1840, 1930, 2028.  
—, cellulose acetate lacquer containing, 532, 547.  
—, cellulose acetate solvent, 791.  
—, cellulose acetate stabilizer, 643.  
—, cellulose treated with, 160.  
—, etherifying cellulose with, 1385.  
—, starch treated with, 160.  
*α*-Monochlorhydrin, 247, 1339, 1384, 1400, 1839.  
—, cellulose compound of, 89.  
—, cellulose ether solvent, 132.  
*b*-Monochlorhydrin, properties, 577.  
Monochlormethane, 1811.  
Monochlormethyl ether, 1290.  
—, cellulose methylenated with, 1621.  
Monochlornaphthalene, 70, 1826, 1827, 1913, 1949, 1958, 1966, 1981, 2001, 2027.  
—, cellulose ether film containing, 2512.  
—, cellulose ether solvent, 52.  
—, film made using, 2503.

- $\alpha$ -Monochloronaphthalene, cellulose ether combined with, 47.
- Monochlorophenol, delustring with, 2185.
- Monochloropropyl alcohol, 1856.
- Monochloropropylene, 1824.
- Monochloropropylene (g)*, see *Allyl chloride*.
- Monochloropropionic acid, cellulose acetate made using, 771.
- , cellulose compounds with, 161.
- Monochlorotoluene, 1827.
- , cellulose ester coagulated by, 133.
- , cellulose ether coagulated by, 133, 170, 2086, 2097.
- , cellulose ether diluent, 156.
- Monochlorotricresyl phosphate, 1896.
- Monochlorvaleraldehyde, 1820.
- Monochlor-xylene, cellulose ether diluent, 156.
- , delustring with, 2186.
- Monocresyl *di-b*-naphthyl phosphate, 1898.
- Monocresyldiphenyl phosphate, cellulose acetate plastifier, 571.
- , cellulose ester plastifier, 147.
- , cellulose ether plastifier, 147.
- Mono-cumene, film made using, 2510.
- Mono-cymene, film made using, 2510.
- Monoethanolamine, 1088, 2384.
- Monoethanolaniline, cellulose ether dyed using, 2257, 2277.
- Monoethanol-*m*-toluidine, cellulose ether dyed using, 2257, 2277.
- Monoethyl*, see *Diethyl*, *Ethyl*, *Triethyl*.
- Mono-ethylamine, 1641, 1747, 1765, 1769, 2006.
- Monoethylaniline, 2014.
- , xantho-fatty acid solvent, 2642.
- Monoethylbenzene, 1810.
- , film made using, 2510.
- , lacquer containing, 2393.
- Monoethylbenzylcellulose, 1609.
- Monoethylbenzylcellulose acetate, 1609.
- Monoethylcellulose, 1652, 1654.
- , alkyl content, 1304.
- , insulator containing, mfr., 2443.
- , solubility, 1651, 1652.
- , water sensitivity, 1551.
- Monoethyl-1.5-cellulose acetate, 1609.
- Monoethylcellulose monobenzoate, 1652.
- Monoethylcellulose penta-acetate, 1654.
- Monoethyl cellulose xanthamide, mfr., 1767.
- Monoethyl cellulose xanthanilid, mfr., 1767.
- Monoethyldibenzylcellulose, 2444.
- Monoethyleneglycol, cellulose ether softener, 2218.
- Monoethyl ether ethylene glycol, benzylcellulose solvent, 1555.
- Monoethyl-ethyleneglycol, non-chalking composition containing, 1580.
- Monoethylglyceryl ether, 1961.
- Monoethyl glycol, 1811.
- Monoethylin, 202, 203.
- , esters of, 1079.
- Monoethylin acid phthalate, cellulose ester plasticizer, 203.
- , cellulose ether plasticizer, 203.
- Monoethylin benzoyl benzoate, 1961.
- , cellulose ester combined with, 202.
- , cellulose ester combined with as varnish, 202.
- , cellulose ether combined with, 202.
- , cellulose ether combined with as varnish, 202.
- , non-chalking composition containing, 1580.
- Monoethylin-dilactate, cellulose ester combined with as varnish, 202.
- , cellulose ether combined with as varnish, 202.
- Monoethylin mannitol, 1974.
- Monoethylin oxalate, cellulose acetate plastifier, 971.
- , cellulose ester combined with as varnish, 202.
- , cellulose ester plasticizer, 203.
- , cellulose ether combined with as varnish, 202.
- , cellulose ether plasticizer, 203.
- , lacquer containing, 2397.
- Monoethylin phthalate, 1973, 1974, 2629.
- , cellulose acetate plasticizer, 971.
- , cellulose ester combined with as varnish, 202.
- , cellulose ester plasticizer, 203.



- Monoethylin phthalate, cellulose ether combined with as varnish, 202.  
 —, cellulose ether plasticizer, 203.  
 —, lacquer containing, 2393, 2397.  
 Monoethylin-pyruvate, cellulose ester combined with as varnish, 202.  
 —, cellulose ether combined with as varnish, 202.  
 Monoethylin-salicylate, cellulose ester combined with as varnish, 202.  
 —, cellulose ether combined with as varnish, 202.  
 Monoethylin sorbitol, 1974.  
 Monoethylin succinate, cellulose ester plasticizer, 203.  
 —, cellulose ether plasticizer, 203.  
 Monoethylin tartrate, cellulose acetate plasticizer, 971.  
 —, cellulose ester combined with as varnish, 202.  
 —, cellulose ether combined with as varnish, 202.  
 Monoethyl malonate, 1948.  
 Monoethylphthalate, lacquer containing, 2396.  
 Monoethyl sebacate, 1939.  
 Monoethyl sulfate, *see Ethylsulfuric acid*.  
 o-Monoethyltoluenesulfonamide, 2040.  
 p-Monoethyltoluenesulfonamide, 2040.  
 Monoethyl-p-toluenesulfonamide, glass, laminated, made using, 2586.  
 Monoethyltoluidine, xantho-fatty acid solvent, 2642.  
 Monoethyltrichloraniline, 2021.  
 Monoethylurea, 2038, 2640.  
 —, plastic made using, 2560.  
 Monoethylxylenesulfonamide, 2040.  
 Monoethylxylinide, xantho-fatty acid solvent, 2642.  
 Monoformin, *see Glyceryl monoformate*.  
 Monoglyceryl, *see Diglyceryl, Glyceryl, Triglyceryl*.  
 Monoglyceryl benzoate, 1820.  
 Monoglycol, *see Diglycol, Glycol, Triglycol*.  
 Monohalogenhydrin, 1590.  
 Monohydrated valerianic acid, *see Iso-valerianic acid*.  
 Monoil, *see Xylene mono-methyl sulfonamide*.  
 Monoiodobenzene, 1826.  
 Monoiodoethane, *see Ethyl iodide*.  
 Mono-iodo-ethylene, 2628.  
 Monomannitol, 1858.  
 Mono-mesitylene, film made using, 2510.  
 Monomethyl, *see Dimethyl, Methyl, Trimethyl*.  
 Monomethylacetonyxose, 1500.  
 Monomethylamine, 1251, 1641, 1746, 1749, 1765.  
 —, cellulose ether dyeing assistant, 2222.  
 1-Monomethylamino-4-oxyanthraquinone, cellulose ether dyed using, 2270.  
 Mono-methylanhydromethylglucoside, 1508.  
 Monomethylaniline, 1764.  
 —, xantho-fatty acid solvent, 2642.  
 Monomethylcatechol, *see Guaiacol*.  
 Monomethylcellulose, 1311, 1329, 1630.  
 —, alkyl content, 1304.  
 —, water sensitivity, 1551.  
 —, *see also Benzylcellulose; Butylcellulose; Ethylcellulose; Methylcellulose; Propylcellulose*.  
 Monomethylcellulose diacetate, 1650.  
 Monomethylcellulose monoacetate, 1650.  
 Monomethyldichlorophenyl phosphate, 1898.  
 Monomethyl-d-erythronic acid, 1497.  
 Monomethyl ether, benzylcellulose solvent, 1588.  
 Monomethyl ether ethylene glycol, benzylcellulose solvent, 1555.  
 Monomethylfructose, 1505.  
 Monomethyl- $\alpha$ -fructose, 1497.  
 3-Monomethylfructose, 1505.  
 Monomethylgalactonic acid, 1502.  
 Monomethylgalactosazone, 1505.  
 Monomethylgalactose, 1501.  
 Monomethylglucose, 1330, 1478.  
 $\alpha$ -Monomethylglucose, 1508.  
 Monomethylglucosediactone, 1509.  
 Monomethyl glycerol, 1497.  
 Monomethyl-glyceryl ether, 1961.  
 Monomethylglycol ether, 1853.  
 Monomethylguanide, 2028.  
 Monomethylin, 202.

- Monomethylin-benzoylbenzoate, cellulose ester combined with as varnish, 202.  
 —, cellulose ether combined with as varnish, 202.  
 Monomethylin-dilactate, cellulose ester combined with as varnish, 202.  
 —, cellulose ether combined with as varnish, 202.  
 Monomethylin oxalate, 1976.  
 —, cellulose acetate plastifier, 971.  
 —, cellulose ester combined with as varnish, 202.  
 —, cellulose ether combined with as varnish, 202.  
 —, lacquer containing, 2397.  
 Monomethylin phthalate, 1973, 1976.  
 —, cellulose acetate plastifier, 971.  
 —, cellulose ester combined with as varnish, 202.  
 —, cellulose ether combined with as varnish, 202.  
 —, lacquer containing, 2397.  
 Monomethyl-levulose, 1507, 1510.  
 Monomethylisomannide, 1503.  
 Monomethylmannose, 1503.  
 Monomethylmethylglucoside, 1507.  
 Monomethylmonoethylcellulose, mfr., 1289.  
 Monomethyl-monoethyl-monobutylcellulose, 1610.  
 Mono-methylol thiourea, varnish containing, 2637.  
 Mono-methylol urea, varnish containing, 2637.  
 Monomethyl starch, 1482.  
 Monomethyltoluenesulfonamide, 1968, 1994, 2042.  
*o*-Monomethyltoluenesulfonamide, 2040.  
*p*-Monomethyltoluenesulfonamide, 2040.  
 Monomethyltoluidine, xantho-fatty acid solvent, 2642.  
 Monomethyltriacyetylfructose, 1505.  
*sym*-Monomethyltrichloranilid, 2021.  
 Monomethylurea, 2029, 2040, 2205.  
 —, benzylcellulose loaded with, 1590.  
 —, ethylcellulose loaded with, 1590.  
 —, plastic made using, 2560.  
 Monomethylxylene sulfonamide, 1951, 2040, 2041, 2042, 2526.  
 Monomethylxylidine, xantho-fatty acid solvent, 2642.  
 Mono-*b*-naphthyldicresyl phosphate, 1820.  
 Mono-*b*-naphthyldiphenyl phosphate, 1820.  
 Mononitrobenzene, 2002.  
 Mononitrocellulose, *see* Cellulose mononitrate.  
 Mononitrodiaacetin, 1844, 1925, 1961.  
 Mononitromethane, solvent, 1801.  
 —, *see also* Nitromethane.  
 Mononitromonochlorhydrin, 1844.  
 Mononitronaphthalene, 2003.  
 —, stencil sheet made using, 2490.  
 —, *see also* Nitronaphthalene.  
 Mononitrophenol, 2003.  
 Mononitrotoluene, 2005.  
 Mono oil, 2041.  
 —, cellulose ether spun using, 2089.  
 Mono-oleyldiethylethylenediamine, 1665.  
 Mono-oleyldiethylethylenediamine methyl sulfate, 1613.  
 Mono-oxyethylcellulose, 1658.  
 Mono-oxyethylcellulose acetate, 1658.  
 Monophenyl, *see* Diphenyl, Phenyl, Triphenyl.  
 Monophenyldicresyl phosphate, 1896.  
 Monophenyl *di-b*-naphthyl phosphate, 1898.  
 Monoplane wings, *see* Wings, monoplane.  
 Mono-potassium, 2626.  
 Monopropionin, cellulose ether dyeing using, 2237.  
 Monopropionylamylaniline, 2015.  
 Monopropionylamyltoluidine, 2015.  
 Monopropionylamylxylidine, 2015.  
 Monopropionylbutylaniline, 2015.  
 Monopropionylbutyltoluidine, 2015.  
 Monopropionylbutylxylidine, 2015.  
 Monopropionylethylaniline, 2015.  
 Monopropionylethyltoluidine, 2015.  
 Monopropionylethylxylidine, 2015.  
 Monopropionylmethylaniline, 2015.  
 Monopropionylmethyltoluidine, 2015.  
 Monopropionylmethylxylidine, 2015.  
 Monopropionylpropylaniline, 2015.  
 Monopropionylpropyltoluidine, 2015.

- Monopropionylpropylxylylidine, 2015.  
 Monopropionyltoluidine, 2015.  
 Monopropyl, *see* Dipropyl, Propyl, Tripropyl.  
 Monopropylbenzene, lacquer containing, 2393.  
 Monopropylcellulose, 1653.  
 —, alkyl content, 1304.  
 —, water sensitivity, 1551.  
 Monopropylene glycol, ethyl ether of, 1850.  
 —, methyl ether of, 1850.  
 —, propyl ether of, 1850.  
 Monopropylglyceryl ether, 1961.  
 Monopropylin, 202.  
 Monopropylin-benzoylbenzoate, cellulose ester combined with as varnish, 202.  
 —, cellulose ether combined with as varnish, 202.  
 Monopropylin-dilactate, cellulose ester combined with as varnish, 202.  
 —, cellulose ether combined with as varnish, 202.  
 Monopropylin oxalate, cellulose acetate plastifier, 971.  
 —, cellulose ester combined with as varnish, 202.  
 —, cellulose ether combined with as varnish, 202.  
 —, lacquer containing, 2397.  
 Monopropylin phthalate, cellulose acetate plastifier, 971.  
 —, cellulose ester combined with as varnish, 202.  
 —, cellulose ether combined with as varnish, 202.  
 —, lacquer containing, 2397.  
 Monopropylin-pyruvate, cellulose ester combined with as varnish, 202.  
 —, cellulose ether combined with as varnish, 202.  
 Monopropylin-salicylate, cellulose ester combined with as varnish, 202.  
 —, cellulose ether combined with as varnish, 202.  
 Monopropylin tartrate, cellulose acetate plastifier, 971.  
 —, cellulose ester combined with as varnish, 202.  
 —, cellulose ether combined with as varnish, 202.  
 Monopropyl phthalate, lacquer with containing, 2396.  
 Mono-sodium, 2626.  
 Mono-sodium celluloseate, 1535.  
 Monosorbitol, 1858.  
 Monosulfoarylazodiarylamines, cellulose ether dyed using, 2295.  
 Mono-toluene, film made using, 2510.  
 Monotolyl, *see* Ditolyl, Tolyl, Tritolyl.  
 Mono-tri-acetin, stencil sheet made using, 2491.  
 Monotriethylurea, 2029.  
 Monotriphenylmethyl starch, mfr., 1635.  
 Mono-isovalerin, preparation, 970.  
 —, properties, 970.  
 Mono-n-valerin, preparation, 970.  
 —, properties, 970.  
 Monovalerylamylaniline, 2015.  
 —, cellulose acetate plastifier, 391.  
 Monovalerylamyltoluidine, 2015.  
 Monovalerylamylxylylidine, 2015.  
 Monovalerylbutylaniline, 2015.  
 —, cellulose acetate plastifier, 391.  
 Monovalerylbutyltoluidine, 2015.  
 Monovalerylbutylxylylidine, 2015.  
 Monovalerylethylaniline, 2015.  
 —, cellulose acetate plastifier, 391.  
 Monovalerylethyltoluidine, 2015.  
 Monovalerylethylxylylidine, 2015.  
 Monovalerylmethylaniline, 2015.  
 —, cellulose acetate plastifier, 391.  
 Monovalerylmethyltoluidine, 2015.  
 Monovalerylmethylxylylidine, 2015.  
 Monovalerylpropylaniline, 2015.  
 —, cellulose acetate plastifier, 391.  
 Monovalerylpropyltoluidine, 2015.  
 Monovalerylpropylxylylidine, 2015.  
 Monoxyalkylcellulose, 1398.  
 Mono-xylene, cellulose ether delustrated by, 133.  
 —, film made using, 2510.  
 Monoxylyl, *see* Dixylyl, Trixylyl, Xylyl.  
 Montan wax, 1969.  
 —, delustring with, 2182.  
 Moonstone, chatoyant effect produced with, 566.  
 —, nacreous effect produced with, 566.  
 Mordant, aluminum citrate, 142.  
 —, aluminum glycollate, 142.  
 —, aluminum lactate, 142.  
 —, aluminum nitrate-acetate, 142.  
 —, aluminum sulfacetate, 142.  
 —, chromium citrate, 142.  
 —, chromium glycollate, 142.

- Mordant, chromium lactate, 142.  
 —, sodium citrate, 142.  
 —, sodium glycollate, 142.  
 —, sodium lactate, 142.  
 Mordanting, aluminum thiocyanate for, 226.  
 —, ammonia for, 226.  
 —, chromium thiocyanate for, 226.  
 —, disodium phosphate for, 226.  
 —, iron (ic) chloride for, 226.  
 —, iron (ic) thiocyanate for, 226.  
 —, sodium carbonate for, 226.  
 —, tannin for, 226.  
 —, tin (ic) chloride for, 226.  
 —, tin (ic) thiocyanate, 226.  
 —, zinc chloride for, 226.  
 —, *see also Loading*,  
 Morphine, 2446.  
*Morphine methyl ether, see Codeine.*  
 Mosque purple, cellulose acetate dyed, 1034.  
*Moss starch, see Lichenin.*  
 Mother-of-pearl, 2610.  
 —, cellulose acetate in mfr. of, 427.  
 —, chatoyant effect produced with, 566.  
 —, dull effect produced using, 2363.  
 —, imitation, mfr., 2561.  
 —, mfr., 884.  
 —, matt effect produced using, 2363.  
 —, nacreous effect produced with, 566.  
 —, sheets of, backing for, 999.  
 Motor fuel, benzene in mfr., 1803.  
 —, diethyl ketone containing, 1883.  
 Mottled effects, producing, 2350.  
 Mouthpiece, cigarette, cellulose acetate for mfr., 509.  
 —, —, foil for, cellulose acetate as, 732.  
 —, —, —, mica for, 732.  
 Mucic acid, 1510.  
 —, amines solvent for, 2011.  
 Mucilage, ethers of, 44.  
*Mucor*, 2201.  
 —, growth on cellulose acetate fabric, 965.  
*Murexane, see Uramil.*  
*Muriate of tin, see Tin chloride.*  
*Muriatic acid, see Hydrochloric acid.*  
 Musa,  $\alpha$ -cellulose from, 301, 1050.  
 Musa fibers, 1172.  
*Musk Baur, see Musk, artificial.*  
 Mustard oils, 1641, 2446.  
 Mutton fat, film containing, 886.  
 —, film made using, 2506.  
 Mutton suet, crayons made using, 2540.  
 —, wax, sealing, made using, 2540.  
 Mylanit, 928.  
 Myricyl alcohol, dispersing agent, 2209.  
 Myristic acid, sulfonated, 2215.  
 Myristic amide, cellulose ether softener, 2218.  
 Myristic anhydride, 1658.  
 Myristin, 1655.  
 Myrtle oil, 2044.  
 Nacelan, cellulose acetate dyestuffs, 1034.  
 —, cellulose ether dyed using, 2292.  
 Nacelan dyes, 976.  
 Nacelan yellow G, cellulose ether dyed using, 2292.  
 Nacreous effect, cellulose acetate for, 566.  
 Nacrolaque, 2567.  
 Naphtha, 1806.  
 —, cellulose butyrate solvent, 559.  
 —, ethylcellulose solvent, 1300.  
 —, plastic made using, 2577.  
 —, *see also Benzine.*  
 Naphthal (petroleum), ethyl cellulose solvent, 19.  
*Naphthacetyl, see Acetaminonaphthol.*  
 Naphthalene, 192, 1163, 1807, 1962, 2031, 2406.  
 —, acetating in presence of, 332.  
 —, amines solvent for, 2011.  
 —, benzylcellulose with, 1571.  
 —, cellulose acetate depolmerized by, 704.  
 —, cellulose acetate plastic containing, 87.  
 —, cellulose acetate plastifier, 337.  
 —, cellulose acetate solvent, 1818, 1819, 1843.  
 —, cellulose ether dyed using, 2271.  
 —, cellulose ether plasticizer, 22, 64, 137.  
 —, cellulose ether solvent, 106, 1841, 2227.  
 —, cellulose formate plastic containing, 87.  
 —, cellulose nitrate plastic containing, 87.  
 —, chlorinated, 1077, 1981.

- Naphthalene, chlorinated, stencil sheet made using, 976, 1488, 2490.
- , "de-association" of cellulose acetate with, 711.
  - , dispersing agent, 2209, 2452.
  - , dull finish lacquer containing, 2418.
  - , ethyl cellulose solvent, 19.
  - , filament, voluminous, made using, 1071, 1075.
  - , flash point, 2061.
  - , hydrated, esters, cellulose acetate plasticizer, 860.
  - , hydrogenated, cellulose ether delustred by, 133.
  - , —, delustring with, 2186.
  - , —, dichlorethylene stabilized by, 1066.
  - , —, ethylcellulose delustred by, 133.
  - , —, trichlorethylene stabilized by, 1066.
  - , hydrogenation of, 1808.
  - , hydrogenation products of, stencil sheet mfr., using, 519.
  - , lacquer containing, 2395.
  - , matt finish lacquer containing, 2418.
  - , *nitro*, see *Nitronaphthalene*.
  - , plastic containing, 549, 2563, 2568.
  - , resinous products from, 1572.
  - , solubilizing agent, 2213, 2219.
  - , starch ether solvent, 1483.
  - , wetting agent, 2208.
- mono*-Naphthalene, ethylcellulose colloided by, 222.
- Naphthaleneazo-*a*-naphthylamine, cellulose acetate dyed with, 640.
- Naphthalene benzenesulfonic acid, cellulose ether color discharged by, 218.
- Naphthalene-a-carboxylic acid*, see *a-Naphthol acid*.
- Naphthalenechlorides, 1827.
- Naphthalene diamine, cellulose ether dyed using, 2248.
- , hydrogenated, 2223.
- 1.5-Naphthalenediamine, 2223.
- , hydrogenated, cellulose ether dyed in presence of, 156.
- 1.7-Naphthalenediamine, 2223.
- Naphthalene dichloride, 1828.
- Naphthalene *a*-dichloride, 1826.
- Naphthalene *b*-dichloride, 1826.
- Naphthalene-formaldehyde condensates, solubilizing agent, 2213.
- , tannin made with, 1427.
- Naphthalene green, cellulose acetate dyestuff, 989.
- Naphthalene *b*-monochloride, 1826.
- Naphthalene-oxy-sulfonic acid, tannin made with, 1427.
- Naphthalene sulfo-acids, cellulose ether dyed using, 2271.
- Naphthalenesulfochloride, 1685.
- Naphthalene sulfonic acid, 538, 1076, 1375.
- , alkylated benzylcellulose purified by, 1546.
  - , cellulose acetate delustred by, 722.
  - , cellulose acetate dyed using, 649.
  - , cellulose acetate solubilizer, 903.
  - , cellulose acetate treated with, 495.
  - , cellulose ester coagulant for, 226.
  - , cellulose ether coagulant for, 226.
  - , cellulose ether color discharged by, 218.
  - , dispersing, 2209.
  - , pinacone diacetate made using, 456.
  - , printing cellulose ether using, 2323.
  - , printing paste containing, 2325.
  - , tannin made with, 1427.
  - , wetting agent, 2208.
- b*-Naphthalenesulfonic acid, delustring using, 2197.
- , surface tension in spinning lowered by, 708.
  - , wetting agent, 2208.
- Naphthalene trichloride, 1828.
- Naphthalic acid, cellulose ether dyed using, 2283.
- , see also *Phthalic acid*.
- Naphthalin, 1807.
- Naphthalol, 1964.
- , see also *Betol*.
- Naphthane, 1980.
- Naphthaquinone di-arylimide, cellulose acetate dyed using, 751.
- Naphthaquinone mono-arylimide, cellulose acetate dyed using, 751.
- 1.8-Naphthasultam, cellulose acetate dyed using, 611.
- , cellulose ether dyed using, 2233.

- Naphthazarin, cellulose ester dyed with, 197.  
—, cellulose ether dyed with, 197, 198, 2246, 2255.  
Naphthenate, metal, 1965.  
—, cellulose acetate plastifier, 481.  
—, leather, artificial, made using, 481.  
Naphthene, cellulose ether treated with, 143.  
—, inversion, delustring using, 2178.  
—, *see also Cyclohexane*.  
Naphthene alcohol, stencil made using, 633.  
—, stencil sheet made using, 663.  
Naphthenesulfonic acid, dyeing in presence of, 548.  
Naphthenic acid, 681, 1657, 1706, 1966, 2158, 2427.  
—, cellulose acetate dyed using, 528.  
—, coating containing, 201.  
—, dispersing agent, 2227.  
—, esters of, cellulose acetate plastifier, 481.  
—, leather, artificial, made using, 481.  
—, filament, hollow, spun, using, 2367.  
—, glycerol condensed with, 234.  
—, lacquer containing, 2419.  
—, lacquer, colored, containing, 2425.  
—, metal coated using, 790.  
—, pentaerythritol condensed with, 234.  
—, solubilizing agent, 2212.  
—, sorbitol condensed with, 234.  
—, stencil made using, 663.  
—, stencil sheet made using, 663, 976, 2490.  
—, uses, 1718.  
—, wood coated using, 790.  
Naphthenic acid chloride, 1094, 1713.  
—, cellulose acetanaphthenate made using, 979.  
Naphthenic acid esters, solubilizing agent, 2212.  
Naphthenic acid glyceride, 1966.  
—, stencil made using, 663.  
—, stencil sheet made using, 633, 2490.  
Naphthenic ester, 1965.  
Naphtheno-oleo-laurate, 1092.  
Naphthionic acid, amines solvent for, 2011.  
—, *see also a-Naphthylamino-4-sulfonic acid*.  
Naphthoic acid, cellulose acetate impregnated with, 360.  
—, cellulose acetate treated with, 495.  
—, cellulose ether color discharged by, 218.  
*iso-Naphthoic acid, see b-Naphthoic acid*.  
2,3-Naphthoic acid anilid, cellulose ester dyed using, 284.  
—, cellulose ether dyed using, 284.  
Naphthol, 1860, 1861.  
—, cellulose acetate plastifier, 340, 352.  
—, cellulose ether dyed using, 2289, 2298.  
—, cellulose nitrate plastifier for, 352.  
—, printing cellulose ether using, 2323.  
*a-Naphthol*, 1861, 2633, 2634, 2635.  
—, cellulose ester dyed using, 264.  
—, cellulose ether dyed with, 159, 264, 2244, 2280.  
—, cellulose ether solvent, 106.  
—, developer, 2346.  
—, dispersing, 2209.  
—, plastic made using, 2573.  
—, tannin made with, 1427.  
*b-Naphthol*, 1569, 1731, 1744, 1820, 1861, 1908, 2633, 2634, 2635.  
—, aviation fabric containing, 430.  
—, cellulose acetate dyed using, 494, 511, 540, 546, 547, 597, 606, 673, 674, 750, 809.  
—, cellulose acetate impregnated with, 360.  
—, cellulose acetate lacquer containing, 394.  
—, cellulose ether dyed using, 2252, 2258, 2264, 2265, 2268, 2274, 2275, 2276, 2277, 2279, 2280, 2286, 2289.  
—, crystal effects produced with, 2429.  
—, diazotized, cellulose ether dyed with, 158.  
—, methylcellulose dyed with, 158.  
—, ethylcellulose for emulsification of, 2448.  
—, flash point, 2061.  
—, methylcellulose for emulsification of, 2448.

- b*-Naphthol, nitrobenzylcellulose dyed with, 1597.  
—, plastic made using, 2573.  
—, sole made using, 481.  
—, tannin made with, 1427.  
—, waterproofing with, 2157.  
*B*-Naphthol, cellulose acetate dyed using, 2272.  
1-Naphthol, amines solvent for, 2011.  
2-Naphthol, amines solvent for, 2011.  
*a*-Naphtholacetyl salicylate, 2027.  
*b*-Naphtholacetyl salicylate, 2027.  
*b*-Naphthol acid, cellulose acetate dyed using, 493.  
Naphtholamyl ether, 1567.  
*b*-Naphtholamyl ether, 1872.  
—, benzylcellulose solvent, 41.  
—, ethylcellulose solvent, 41.  
—, propylcellulose plasticizer, 1338.  
—, propylcellulose solvent, 41.  
Naphthol AS, 1085.  
—, printing with, 2326.  
Naphtholbenzenesulfonic acid, cellulose ether color discharged by, 219.  
—, discharge effect produced by, 219.  
Naphthol benzoate, cellulose acetate plasticizer, 433.  
*a*-Naphtholbenzoyl salicylate, 2027.  
*b*-Naphtholbenzoyl salicylate, 2027.  
*a*-Naphtholcarboxylic acid, *see a*-Oxynaphthoic acid.  
*B*-Naphthol-carboxylic acid, *see B*-Oxy-naphthoic acid.  
*b*-Naphthol-3-carboxylic acid, cellulose acetate dyed using, 982.  
1-Naphthol-3.8-disulfonamide, cellulose acetate dyed using, 611.  
—, cellulose ether dyed using, 2233.  
Naphthol ester, 1681.  
—, benzylcellulose solvent, 41.  
—, cellulose acetate plastifier, 370.  
—, ethylcellulose solvent, 41.  
—, propylcellulose solvent, 41.  
Naphthol ethers, benzylcellulose solvent, 41.  
—, cellulose acetate plastifier, 452.  
—, ethylcellulose solvent, 41.  
—, propylcellulose solvent, 41.  
*a*-Naphthoethyl ether, acetic anhydride solvent, 1048.  
*b*-Naphthoethyl ether, acetic acid solvent, 1032.  
*b*-Naphthoethyl ether, acetic anhydride solvent, 1048.  
—, aviation fabric containing, 430.  
Naphthoethyloxyphenol sulfonate, 2034.  
*a*-Naphtholformyl salicylate, 2027.  
*b*-Naphtholformyl salicylate, 2027.  
Naphthol methyl ethers, cellulose acetate plasticizer, 398.  
*a*-Naphtholmethylether, acetic acid solvent, 1031.  
*b*-Naphtholmethyl ether, acetic anhydride solvent, 1048.  
Naphtholmethyloxyphenyl sulfonate, 2034.  
Naphtholnaphthyl sulfonate, 2034.  
Naphtholnitronaphthyl sulfonate, 2034.  
Naphtholnitrotolyl sulfonate, 2034.  
Naphtholphenyl sulfonate, 2034.  
Naphthol phosphate, benzylcellulose plasticizer, 167.  
—, cellulose acetate plastifier, 391.  
—, ethylcellulose plasticizer, 167.  
*a*-Naphtholpropionyl salicylate, 2027.  
*b*-Naphtholpropionyl salicylate, 2027.  
Naphtholpropyloxyphenyl sulfonate, 2034.  
Naphthol resists, printing with, 2326.  
Naphthols, 2172.  
—, cellulose acetate dyed using, 2235.  
—, cellulose acetate printing using, 672.  
*N*-Naphthol salicylate, *see Betol*.  
Naphtholsalol, *see B*-Naphthyl salicylate.  
Naphthol sulfoacetate, cellulose acetate plastifier, 391.  
Naphthol sulfonate, 2035.  
Naphthol-sulfonic acid, 2450.  
—, catalyst in cellulose acetation, 337, 342.  
—, cellulose ester coagulant for, 226.  
—, cellulose ether coagulant for, 226.  
—, cellulose ether color discharged by, 219.  
—, discharge effect produced by, 219.  
—, sunburn protector, 63, 2541.  
*a*-Naphthol sulfonic acid, tannin made with, 1427.

- b*-Naphthol sulfonic acid, tannin made with, 1427.  
*b*-Naphthol-7-sulfonic acid, cellulose ether dyed using, 2259.  
*b*-Naphthol-8-sulfonic acid, cellulose acetate dyed using, 673.  
—, cellulose ether dyed using, 2294.  
2.7-Naphtholsulfonic acid, wetting agent, 2208.  
2-Naphthol-7-sulfonic acid, cellulose acetate printed using, 716.  
—, printing paste containing, 2325.  
Naphthol thiophosphate, cellulose acetate plastifier, 391.  
Naphthol-*p*-tolyl ether, acetic acid solvent, 956.  
Naphtholtolyl sulfonate, 2034.  
Naphtholxylyl sulfonate, 2034.  
Naphthol yellow, amines solvent for, 2011.  
Naphtho-quinone, cellulose ether dyed using, 2286.  
*b*-Naphthoquinone, 2634.  
1.4-Naphthoquinone, cellulose acetate dyed using, 750.  
Naphtho-quinonemonoimide, cellulose acetate dyed using, 502.  
*Naphthosolol*, see *Betol*.  
Naphthoxyamyl acetate, 1926.  
Naphthoxybutyl acetate, 1926.  
Naphthoxyethyl acetate, 1926.  
Naphthoxylacetic acid, 1942.  
Naphthoxylacetic anhydride, 1942.  
Naphthoxylacetic ester, 1942.  
Naphthoxymethyl acetate, 1926.  
Naphthoxypropyl acetate, 1926.  
Naphthyl acetate, 1841, 1928, 1961, 2023.  
—, cellulose acetate plastic made using, 526.  
—, cellulose acetate plasticizer, 398.  
*a*-Naphthyl acetate, 1928.  
*b*-Naphthyl acetate, 1928, 2018.  
Naphthyl acetyl naphthate, cellulose acetate plastifier, 550.  
Naphthyl acetyl-oxyoleate, 1939.  
Naphthyl acetyl-oxystearate, 1939.  
*a*-Naphthyl acetyloxystearate, camphor substitute, 2052.  
*b*-Naphthyl acetyloxystearate, camphor substitute, 2052.  
Naphthyl acetyl-ricinoleate, 1939.  
*a*-Naphthyl acetylricinoleate, camphor substitute, 2052.  
*b*-Naphthyl acetylricinoleate, camphor substitute, 2052.  
Naphthyl acetyl salicylate, cellulose acetate plastifier, 550.  
*a*-Naphthyl acetyl-salicylate, 1963.  
—, camphor substitute, 2052.  
*b*-Naphthyl acetyl-salicylate, 1963.  
—, camphor substitute, 2052.  
Naphthylamine, cellulose acetate dyeing using, 227, 610, 647.  
—, cellulose ether dyeing using, 227, 276, 2268, 2278.  
—, diazo compounds of, cellulose acetate dyed using, 504.  
—, lacquer containing, 741.  
*a*-Naphthylamine, 181, 1087, 2043.  
—, cellulose acetate dyed using, 503, 511, 547, 597, 606, 610, 676, 717, 809, 829, 845, 904, 2272.  
—, cellulose ester dyed black using, 210.  
—, cellulose ether dyed with, 67, 117, 159, 217, 2253, 2269, 2273, 2275, 2276, 2279, 2280, 2284, 2300, 2301, 2302, 2306, 2311.  
—, cellulose ether dyed black using, 210.  
—, developer, 2346.  
—, flash point, 2061.  
—, hydroxyalkylated, cellulose ether dyed using, 2254.  
—, pattern effect using, 2344.  
*b*-Naphthylamine, 2043.  
—, cellulose acetate dyed using, 750, 808, 845.  
—, cellulose acetate impregnated with, 360.  
—, cellulose ether dyed using, 159, 2275, 2276, 2280, 2286, 2294.  
—, diazotized, cellulose ester dyed using, 300.  
—, —, cellulose ether dyed using, 300.  
1-Naphthylamine, cellulose acetate dyed using, 751.  
2-Naphthylamine, cellulose acetate dyed using, 676, 751.  
—, cellulose ether dyed using, 275.  
Naphthylamine bordeaux, 826, 2320.  
*b*-Naphthylamine carbonic acid, cellulose acetate dyed using, 672.  
2.3-Naphthylaminecarbonic acid, cellulose acetate dyed using, 672.  
Naphthylaminecarboxylic acid, cellulose acetate dyed using, 808.  
—, cellulose ether dyed using, 2275.  
2.3-Naphthylaminecarboxylic acid, cellulose acetate dyed using, 808.



- 2.3-Naphthylaminecarboxylic acid, cellulose ether dyed using, 2275.  
Naphthylamine chloride, cellulose ether dyed using, 2300.  
*a*-Naphthylamine chloride, cellulose ether dyed using, 2271.  
1.5-Naphthylaminediazine, cellulose ester dyed black using, 210.  
—, cellulose ether dyed black using, 210.  
1.5-Naphthylamine diamine, hydrogenated, cellulose ether softener, 2220.  
2-Naphthylamine-6.8-disulfonic acid, cellulose acetate dyed using, 845.  
1-Naphthylamine-2-ethyl ether, cellulose ether dyed using, 2268, 2286.  
*a*-Naphthylamine glycine, cellulose acetate dyed using, 643.  
1-Naphthylamine-8-sulfonate, cellulose acetate dyed using, 646.  
Naphthylamine-sulfonic acid, 2450.  
—, sun protector, 63, 2541.  
*a*-Naphthylamine-6-sulfonic acid, cellulose ether dyed using, 2300.  
*a*-Naphthylamine-7-sulfonic acid, cellulose ether dyed using, 2300.  
*b*-Naphthylamine-1-sulfonic acid, 2249.  
—, cellulose acetate dyed using, 1010.  
*b*-Naphthylamine-8-sulfonic acid, cellulose acetate dyed using, 673.  
1-Naphthylamine-8-sulfonic acid, cellulose ether dyed using, 2273.  
2.1-Naphthylaminesulfonic acid, cellulose acetate dyed using, 610, 647.  
Naphthylaminemonosulfonic acid, cellulose acetate dyed using, 646.  
Naphthyl benzoate, 1964.  
*b*-Naphthyl benzoate, 1958, 1961.  
Naphthyl benzoyl naphthoate, cellulose acetate plastifier, 550.  
Naphthyl benzoyl-oxystearate, 1939.  
Naphthyl benzoyl-oxystearate, 1939.  
*a*-Naphthyl benzoyloxystearate, camphor substitute, 2052.  
*b*-Naphthyl benzoyloxystearate, camphor substitute, 2052.  
Naphthyl benzoyl-ricinoleate, 1939.  
*a*-Naphthyl benzoylricinoleate, camphor substitute, 2052.  
Naphthyl benzoyl salicylate, cellulose acetate plastifier, 550.  
*a*-Naphthyl benzoyl-salicylate, 1936.  
—, camphor substitute, 2052.  
*b*-Naphthyl benzoyl-salicylate, 1963.  
—, camphor substitute, 2052.  
*b*-Naphthylbiguanide, benzylcellulose combined with, 282.  
—, benzylcellulose stabilizer, 1574.  
—, butylcellulose combined with, 282, 1340.  
—, butylcellulose stabilizer, 1574.  
—, coating containing, 282.  
—, film containing, 282.  
—, film preservative, 1586.  
—, lacquer containing, 282, 2416.  
—, stabilizer, 1574.  
*Naphthyl cyanide*, see *Naphthionitrile*.  
1.5-Naphthyldiamine, cellulose ether dyed using, 2300.  
Naphthyl dianilid, 1896.  
*b*-Naphthyl-dicresyl phosphate, cellulose acetate plastifier, 908.  
*mono-b*-Naphthyldicresyl phosphate, cellulose acetate plastifier, 972.  
Naphthyl dihydrocarvone, 2046.  
*a*-Naphthyldihydrocarvone, cellulose acetate plasticizer, 365, 1807, 1890.  
*b*-Naphthyl-diphenyl phosphate, cellulose acetate plastifier, 908.  
*Naphthylene*, see *Diamino-naphthalene*.  
Naphthylenediazine, cellulose acetate combined with, 533.  
—, cellulose ether dyed with, 165.  
—, dye from, 138.  
1.5-Naphthylenediazine, cellulose acetate dyed using, 809.  
—, cellulose ether dyed using, 2275.  
Naphthyl ether, acetic anhydride solvent, 957.  
*b*-Naphthyl ether, acetic acid solvent, 956.  
*a*-Naphthyl ethyl ether, acetic acid solvent, 956.  
*b*-Naphthylethyl ether, 1870.  
—, acetic acid solvent, 956.  
Naphthyl formyl naphthoate, cellulose acetate plastifier, 550.  
Naphthyl formyl-oxystearate, 1939.  
Naphthyl formyl-oxystearate, 1939.

- a*-Naphthyl formyloxystearate, camphor substitute, 2052.
- b*-Naphthyl formyl oxystearate, camphor substitute, 2052.
- Naphthyl formyl-ricinoleate, 1939.
- a*-Naphthyl formylricinoleate, camphor substitute, 2052.
- b*-Naphthyl formylricinoleate, camphor substitute, 2052.
- Naphthyl formyl salicylate, cellulose acetate plastifier, 550.
- a*-Naphthyl formyl-salicylate, 1963.
  - , camphor substitute, 2052.
- b*-Naphthyl formyl-salicylate, 1963.
  - , camphor substitute, 2052.
- b*-Naphthylguanide, lacquer containing, 2416.
- Naphthyl isocyanate, modifying dyeing properties of fibers by, 831.
- a*-Naphthyl methyl ether, acetic acid, solvent, 956.
- b*-Naphthyl methyl ether, acetic acid, solvent, 956.
- Naphthyl naphthoxylacetate, 1928, 1942.
- Naphthyl oxanilate, 1979.
- Naphthyl oxynaphthylamine, 1979.
- Naphthyl phenoxylacetate, 1928, 1942.
- Naphthyl phenylethylglycollate, 1942.
- Naphthyl phosphate, cellulose acetate plastifier, 391.
- Naphthyl phosphoric acid dianilid, 1896.
- Naphthyl-phosphoric ester, 1896.
- Naphthylpropanol chlorhydrin, cellulose etherified by, 1401.
- Naphthyl propionate, 1906.
- Naphthyl propionyl naphthoate, cellulose acetate plastifier, 550.
- Naphthyl propionyl-oxyleate, 1939.
- Naphthyl propionyl-oxystearate, 1939.
- a*-Naphthyl propionyloxystearate, camphor substitute, 2052.
- b*-Naphthyl propionyloxystearate, camphor substitute, 2052.
- Naphthyl propionyl-ricinoleate, 1939.
- a*-Naphthyl propionylricinoleate, camphor substitute, 2052.
- b*-Naphthyl propionylricinoleate, camphor substitute, 2052.
- Naphthyl propionyl salicylate, cellulose acetate plastifier, 550.
- a*-Naphthyl propionyl-salicylate, 1963.
  - , camphor substitute, 2052.
- b*-Naphthyl propionyl-salicylate, 1963.
  - , camphor substitute, 2052.
- a*-Naphthyl propyl ether, acetic acid, solvent, 956.
- b*-Naphthyl propyl ether, acetic acid, solvent, 956.
- Naphthylurea, 2029.
- Naphthyl urethane, 1956.
- Napkin, cellulose ester for waterproofing, 209.
  - , cellulose ether for waterproofing, 209.
  - , damask effect on, producing, 2340.
  - , mfr. of, cellulose ether in, 2405.
  - , waterproofing, 209.
- Narcoform, 1275.
- National Erie Black GXOO, 873.
- National nigrosine base N, 944.
  - , ink, marking, containing, 2330.
  - , ink containing, 2475.
- Navy blue*, see *Blue*, *navy*.
- "Near-tobacco," mfr. of, 2432.
- Neatsfoot oil, alkyl cellulose with for treating leather, 193.
  - , cellulose ether lubricant, 303.
  - , dimethylcellulose with for treating leather, 193.
  - , emulsion containing, 2466, 2467.
  - , film made using, 2506.
  - , scroop imparted by, 2203.
  - , softener, 2216.
  - , tanning with, 2467.
  - , tinting cellulose ether using, 2231.
- "Nelkin oil," glass, laminated, made using, 517.
- Neostyle, sheets for, mfr., 2486.
- Neophan, 2567.
- Neotrehalose, 1510.
- Nerolin*, see *Methyl naphthyl ether*.
- Net, cellulose acetate for coating, 414.
- Netting, amine-furfuraldehyde for coating, 741.
  - , cellulose acetate for coating, 741, 884.
  - , cellulose acetate covered, 1005.
  - , ketone-furfuraldehyde for coating, 741.

- Netting, ketone-phenol-aldehyde for coating, 741.  
—, phenol-aldehyde for coating, 741.  
—, phenol-furfuraldehyde for coating, 741.  
—, resin, synthetic, for coating, 741.  
—, wire, cellulose acetate coated, 741, 742, 874.  
Nettle, stinging, cellulose acetate coated, using, 438.  
Neucamphorsol, 2043.  
—, *see also p-Toluenesulfamide*.  
Neurodin, 1955.  
Neutex, 2567.  
Neutroleum, 1340.  
New-Camphrosals, cellulose acetate solvent, 699.  
Newtex, 2567.  
Niagara blue DB, cellulose ether dyed using, 2292.  
Nickel, acetic anhydride mfr. using, 626.  
—, acetone made using, 772.  
—, catalyst, 492, 865.  
—, catalyst in acetaldehyde mfr., 586, 588.  
—, catalyst in cellulose acetate mfr., 686.  
—, cellulose acetate as resistance material, 801.  
—, cellulose acetate etherified in presence of, 1434.  
—, cellulose benzoate etherified in presence of, 1434.  
—, cellulose butyrate etherified in presence of, 1434.  
—, cellulose etherified in apparatus of, 1453.  
—, cellulose etherified in presence of, 55.  
—, cellulose formate etherified in presence of, 1434.  
—, cellulose propionate etherified in presence of, 1434.  
—, zinc acetate, made using, 772.  
Nickel amyl phthalate, 1974.  
Nickel *mono*amyl-phthalate, lacquer of cellulose acetate and, 613.  
Nickel borate, catalyst, 866.  
—, catalyst in acetaldehyde mfr., 671.  
—, catalyst in acetic acid mfr., 834.  
Nickel bromide, catalyst in cellulose acetate mfr., 1031.  
Nickel bromide, cellulose acetate made using, 773.  
—, cellulose pretreated with, 866.  
Nickel butyl phthalate, 1974.  
Nickel *monobutyl*-phthalate, lacquer of cellulose acetate and, 613.  
Nickel chloride, 2252.  
—, catalyst in cellulose acetate mfr., 1031.  
—, catalyst in cellulose acetylation, 1062.  
—, catalyst in ethyl chloride mfr., 1267, 1268.  
—, cellulose acetate made using, 773.  
—, cellulose pretreated with, 866.  
Nickel ethyl phthalate, 1974.  
Nickel *monoethyl*-phthalate, lacquer of cellulose acetate and, 613.  
Nickel hydroxide, loading with, 2152.  
Nickel iodide, catalyst in cellulose acetate mfr., 1031.  
—, cellulose acetate made using, 773.  
—, cellulose pretreated with, 866.  
Nickel methyl phthalate, 1974.  
Nickel-*mono*amyl phthalate, lacquer containing, 2396.  
Nickel-*monobutyl* phthalate, lacquer containing, 2396.  
Nickel-*monoethyl* phthalate, lacquer containing, 2396.  
Nickel-*monopropyl* phthalate, lacquer containing, 2396.  
Nickel naphthenate, lacquer, ship bottom, containing, 2419.  
Nickel nitrate, catalyst, 492.  
—, cellulose ether colored using, 2476.  
—, film, non-static, made using, 661.  
Nickel oxalate, cellulose ether colored using, 2476.  
Nickel oxide, acetaldehyde mfr. using, 481.  
—, catalyst in acetaldehyde mfr., 580.  
—, catalyst in acetic acid mfr., 957.  
—, cellulose acetate etherified in presence of, 1434.  
—, cellulose benzoate etherified in presence of, 1434.  
—, cellulose butyrate etherified in presence of, 1434.

- Nickel oxide, cellulose formate etherified in presence of, 1434.  
 —, cellulose propionate etherified in presence of, 1434.  
 Nickel phosphate, catalyst, 866.  
 —, catalyst in acetaldehyde mfr., 671.  
 —, catalyst in acetic acid mfr., 834.  
 Nickel phthalate, 1906.  
 Nickel powder, plastic of cellulose acetate and, 808.  
 Nickel propyl phthalate, 1974.  
 Nickel *monopropyl*-phthalate, lacquer of cellulose acetate and, 613.  
 Nickel silicate, catalyst, 866.  
 —, catalyst in acetic acid, mfr., 834.  
 Nickel sulfate, 2252.  
 —, alkalicellulose oxidized by, 1229.  
 —, glass made using, 525.  
 —, wood pulp digested with, 1171.  
 Nickel sulfide, 2252.  
 Nicotine, 1647.  
 —, glass, steaming on, preventing by, 2396.  
 Nicotinic acid, 1730.  
*iso*Nicotinic acid, 1730.  
*iso*Nicotinic chloride, 1731.  
 Night blue, amines solvent for, 2011.  
 Nigrosine, 2640.  
 —, airplane lacquer made using, 520.  
 —, cellulose ester ink containing, 964.  
 —, lacquer containing, 2391.  
 —, textiles, metallization of, with, 2361.  
 Nigrosine B, benzylcellulose dyed by, 62, 1584.  
 —, cellulose ester dyed by, 62.  
 —, cellulose ether dyed using, 2225, 2226.  
 —, ethylcellulose dyed by, 62.  
 —, methylcellulose dyed by, 62.  
 Nigrosine base, ink containing, 995.  
 Ninon, cellulose acetate dyeing, 1001.  
 —, cellulose acetate fabric, 630.  
*Niter cake*, *see Sodium acid sulfate*.  
*Niter lime*, *see Calcium cyanamide*.  
*p*-Nitramine, cellulose ether dyed using, 2278.  
 Nitraniline, 2025.  
 Nitraniline, diazo compounds of, cellulose acetate dyed using, 504.  
 —, —, cellulose ether dyed using, 2280.  
 —, lacquer containing, 741.  
 —, stabilizer, 1564.  
*m*-Nitraniline, 2014.  
 —, amines solvent for, 2011.  
 —, cellulose acetate dyed using, 547, 597, 610, 693, 881.  
 —, cellulose ether dyed using, 2250, 2251, 2263, 2279, 2294.  
*o*-Nitraniline, cellulose ester dyed using, 281.  
 —, cellulose ether dyed using, 281.  
*p*-Nitraniline, 2253.  
 —, cellulose acetate dyed using, 540, 542, 547, 610, 611, 674, 809, 937, 962.  
 —, cellulose acetate impregnated with, 360.  
 —, cellulose ester dyed using, 219.  
 —, cellulose ether dyed with, 199, 219, 2261, 2264, 2269, 2277.  
 —, cellulose ether dyed with diazo-tized, 120.  
 —, developer, 2346.  
 —, diazotized, cellulose acetate dyed using, 752.  
 —, —, cellulose ether dyed using, 2246, 2254, 2257, 2265, 2270.  
 4-Nitranilineazodihydroxydiethyl-3-amino-1-methylbenzene, cellulose ether dyed using, 2261.  
 4-Nitranilineazodihydroxydiethylaniline, cellulose ether dyed using, 2261.  
*p*-Nitraniline-azo-1.8-naphthyl-aminesulfonic acid, cellulose acetate dyed using, 610, 647.  
*p*-Nitraniline-azo-phenyl-peri acid, cellulose acetate dyed using, 610, 647.  
*p*-Nitraniline red, amines solvent for, 2011.  
*p*-Nitraniline-*o*-sulfonic acid, sulfonic acid, cellulose acetate dyed using, 610, 647, 844.  
 —, cellulose ester dyed using, 219.  
 —, cellulose ether dyed using, 219, 2269.  
 2-Nitraniline-4-sulfonic acid, cellulose ether dyed using, 2251.  
 4-Nitraniline-2-sulfonic acid, cellulose ether dyed using, 2251.  
 4-Nitraniline-4-sulfonic acid, cellulose ether dyed using, 2251.

- m*-Nitraniline-*ar*-tetrahydro-*a*-naphthylamine, cellulose ester dyed using, 219.  
—, cellulose ether dyed using, 219, 2269.  
*Nitrate of lime*, see *Calcium nitrate*.  
*Nitrated corn pith*, see *Corn pith*.  
*Nitrated paper*, see *Cellulose nitrate paper*; *Paper, nitrated*; *Paper, nitration of*.  
*Nitrated starch*, see *Starch, nitrated*.  
*Nitrated turpentine*, see *Turpentine, nitrated*.  
*Nitrated white pine*, see *Nitrolignin*.  
*Nitrating acids*, see *Acid, nitrating*.  
*Nitrating baths*, see *Spent acid*.  
Nitrates, hydrolysis acetic anhydride diminished by, 986.  
*Nitre*, see *Niter*, *Sodium nitrate*.  
Nitric acid, benzylcellulose solubility increased by, 177.  
—, benzylcellulose viscosity reduced by, 1560.  
—, catalyst in cellulose acetate mfr., 417, 428, 452, 467, 764, 846, 847.  
—, catalyst in cellulose acetating, 353, 411.  
—, cellulose acetate discharge effects produced by, 745.  
—, cellulose acetate hydrated using, 355, 377.  
—, cellulose acetate hydrolyzed by, 409, 927.  
—, cellulose acetate nitrated using, 490.  
—, cellulose acetate solubility modified by, 644.  
—, cellulose acetate treated with, 2315.  
—, cellulose acetonitrile made using, 979, 1063.  
—, cellulose butyronitrile made using, 1063.  
—, cellulose ethers purified by, 96, 102, 1461.  
—, cellulose ether softener, 2350.  
—, cellulose ether solubility increased by, 177.  
—, cellulose ether strengthened by, 2131, 2134.  
—, cellulose ether swelling agent, 254.  
Nitric acid, cellulose ether viscosity reduced by, 1361.  
—, cellulose oxidized by, 12, 366.  
—, cellulose pretreated with, 655, 666, 929, 953.  
—, cellulose propionitrile made using, 1063.  
—, cellulose purified by, 1407.  
—, cellulose treated with, 1138.  
—, crepe effect on cellulose acetate by, 701.  
—, crepe effect by use of, 2338.  
—, discharge effect on cellulose ether produced using, 175.  
—, electric conductor made using, 2439.  
—, ethylcellulose solubility increased by, 177.  
—, formic acid concentrated using, 993.  
—, glass, laminated, made using, 655.  
—, mfr., 793.  
—, mercerizing by, 505.  
—, methylcellulose solubility increased by, 177.  
—, oils oxidized by, 459.  
—, seersucker fabric produced using, 2352.  
—, soluble starch made using, 363.  
—, sulfuric acid mixtures of, see *Mixed acids*.  
—, viscose, treated with, 2315.  
*Nitric anhydride*, see *Nitrogen pentoxide*.  
*Nitric ether*, see *Ethyl nitrate*.  
Nitric oxide, acetic anhydride made using, 565.  
—, see also *Nitrogen dioxide*.  
*Nitrolomalonic acid*, see *Cyanacetic acid*.  
2-Nitro-4'-acetamido-diphenylamine, cellulose butyrate dyed using, 750.  
—, cellulose ether dyed using, 2285.  
—, cellulose formate dyed using, 750.  
—, cellulose propionate dyed using, 750.  
—, cellulose acetate dyed using, 632, 750.  
*p*-Nitroacetanilide, amines solvent for, 2001.  
Nitroacetophenone, 1890.  
Nitro-*p*-acetphenetidin, 2015.  
Nitro-*o*-acettoluid, 2015.  
Nitro-*p*-acettoluid, 2015.

- Nitroacetylcellulose*, see *Acetylnitrocellulose*.  
Nitroacridine, cellulose acetate dyed using, 602.  
—, cellulose ether dyed using, 2295.  
*a*-Nitroacridine, cellulose acetate dyed using, 602.  
—, cellulose ether dyed using, 2295.  
*b*-Nitroacridine, cellulose acetate dyed using, 602.  
—, cellulose ether dyed using, 2295.  
Nitroalizarin, 826, 2320.  
3-Nitro-4-amidodiphenyl ether, cellulose ether dyed using, 2269.  
4-Nitro-1-aminoanthraquinone-2-carboxyl chloride, cellulose acetate dyed using, 2247.  
2-Nitro-2-aminobenzene-1-carboxylic acid ester, cellulose ether dyed using, 2276.  
2-Nitro-1-aminobenzene-4-sulfamide, cellulose ether dyed with, 67, 276.  
—, diazotized, cellulose ether dyed using, 2278.  
5-Nitro-2-aminobenzoic acid, lacquer, colored, using, 2399.  
4-Nitro-2-aminobenzoic acid methyl ester, diazotized, cellulose ether dyed with, 158.  
—, methylcellulose dyed with, 158.  
3-Nitro-4-aminobenzophenone, cellulose acetate dyed using, 546.  
4-Nitro-4'-aminodiphenyl, cellulose ether dyed using, 217.  
4-Nitro-2-aminodiphenylamine, cellulose acetate dyed using, 546.  
3-Nitro-4-aminodiphenyl ether, cellulose acetate dyed using, 608.  
—, cellulose ether dyed using, 2296.  
4-Nitro-4'-aminodiphenyl sulfide, cellulose ether dyed using, 2258.  
—, diazo compound of, cellulose acetate dyed using, 928.  
2-Nitro-1-amino-4-methylbenzene, cellulose ether dyed using, 2251.  
5-Nitro-2-amino-1-oxybenzene, benzylcellulose dyed using, 1586.  
—, cellulose ether dyed using, 285.  
—, plastic made using, 2573.  
4-Nitro-*o*-aminophenol, 2635.  
—, lacquer, colored, containing, 2425.  
5-Nitro-2-aminophenol, diazotized, cellulose ether dyed using, 2251.  
3-Nitro-4-aminotoluene, diazotized, cellulose ether dyed with, 158.  
—, methylcellulose dyed with, 158.  
5-Nitro-4-amino-*m*-xylene, cellulose ether dyed using, 2294.  
Nitroanisidine, diazo compounds of, cellulose acetate dyed using, 504.  
—, cellulose ether dyed using, 2280.  
*p*-Nitro-*o*-anisidine, cellulose acetate dyed using, 809.  
—, developer, 2346.  
4-Nitro-*o*-anisidine, cellulose acetate dyed using, 675, 2272.  
4-Nitro-1,2-anisidine, cellulose dyed with, 196.  
—, dyeing with, 196.  
5-Nitro-*o*-anisidine, cellulose acetate dyed using, 673, 853, 937.  
—, cellulose ether dyed using, 2254, 2294.  
—, diazotized, cellulose acetate dyed using, 752.  
—, discharge effect with, 2347.  
5-Nitro-2-anisidine, cellulose acetate dyed using, 610.  
—, cellulose ether dyed with, 113, 2282.  
5-Nitro-2-anisidine-3-sulfonic acid, cellulose ether dyed using, 2262.  
Nitroanisol, cellulose acetate plasticizer, 398.  
—, delustring with, 210, 2190.  
—, lacquer containing, 1081.  
5-Nitroanthranilic acid, cellulose ester dyed using, 281.  
—, cellulose ether dyed using, 281.  
Nitroanthraquinone, aminoanthraquinones, hydroxyalkylated, made using, 676.  
—, cellulose ether dyed using, 2246.  
1-Nitroanthraquinone, 2249, 2634.  
2-Nitro-anthraquinonylurethane, cellulose acetate dyeing using, 2232.  
4-Nitro-anthraquinonylurethane, cellulose acetate dyeing using, 2232.  
Nitroarylamine, cellulose acetate dyed using, 546.  
—, cellulose ester dyed using, 281.  
—, cellulose ether dyed using, 281, 2268.

- N*-Nitroarylcyclohexylamine, cellulose acetate dyed using, 982, 2247.
- N*-Nitroaryl-*ar*-tetrahydro-naphthylamine, cellulose ester dyed using, 220.
- , cellulose ether dyed using, 220.
- m*-Nitrobenzaldehyde, amines solvent for, 2011.
- Nitrobenzene, 917, 1053, 1093, 1685, 1697, 1828, 1859, 1908, 1909, 1923, 1956, 2002, 2003, 2004, 2032, 2182.
- , acetating in presence of, 332.
- , acetic anhydride made using, 534.
- , amines solvent for, 2011.
- , benzylcellulose plastified by, 102, 1578.
- , benzylcellulose solvent, 230.
- , benzyl dextrin solvent, 1516.
- , benzyl starch solvent, 1516.
- , catalyst in cellulose acetation, 411.
- , cellulose acetate nitrated using, 490.
- , cellulose acetate solvent, 319, 324, 331, 333, 336, 1691, 1780, 1818, 1819.
- , cellulose ether precipitant, 170, 2086.
- , cellulose ether solvent, 230, 1841.
- , cellulose nitrated in presence of, 411.
- , delustring with, 210, 2189.
- , ethylcellulose plastified, by, 102.
- , ethyl cellulose solvent, 17, 18, 19, 20, 21, 230, 1335.
- , filament, hollow, spun, using, 2368.
- , flash point, 2061.
- , lacquer containing, 2397.
- , methylcellulose plastified by, 102.
- , multicolor screen made using, 2533.
- , oxalyl chloride made using, 646.
- , sucrose, benzylated, solvent, 1517.
- , trimethylcellulose solvent, 1315.
- p*-Nitrobenzene, 1826.
- p*-Nitrobenzeneazodimethylaniline, cellulose ether dyeing using, 2237.
- m*-Nitrobenzeneazodiphenylamine, cellulose acetate dyed using, 528.
- p*-Nitrobenzeneazodiphenylamine, cellulose acetate dyed using, 750.
- , cellulose ether dye, 2147.
- p*-Nitrobenzeneazo-*p*-naphthol, cellulose ether dyed using, 2228.
- p*-Nitrobenzeneazo-*b*-naphthylamine, cellulose acetate dyed using, 662.
- , cellulose ether dyed using, 2280.
- 4-Nitrobenzeneazo-*p*-xylidine, benzylcellulose dyed using, 2238.
- , ethylcellulose dyed using, 2238.
- , methylcellulose dyed using, 2238.
- m*-Nitrobenzenesulfonamide, amines solvent for, 2011.
- m*-Nitrobenzene-sulfonic acid, cellulose acetate dyed using, 711.
- 4-Nitrobenzene-3-sulfonic acid-1-azoamino-4-cresolmethyl ether, cellulose ether dyed using, 2260.
- 3-Nitrobenzene-4-sulfonic acid-1-azo-4-chlor-2-amino-1-phenylmethyl ether, cellulose ether dyed using, 2260.
- p*-Nitrobenzene tetrachloride, 1826.
- 3-Nitrobenzidine, cellulose ether dyed using, 2296.
- Nitrobenzil, 1890.
- 4-Nitro-1-benzoate of soda-2-azomethylbenzylaniline, cellulose ether dyed with, 131.
- Nitrobenzoic acid, 993.
- , cellulose treated with, 2314.
- o*-Nitrobenzoic acid, amines solvent for, 2011.
- p*-Nitrobenzoic acid, amines solvent for, 2011.
- Nitrobenzol*, see *Nitrobenzene*.
- Nitrobenzophenone, 1890.
- Nitrobenzoyl chloride, 1596.
- Nitrobenzoyl nitrate, 369.
- Nitrobenzyl alcohol, cellulose acetate plastifier, 452.
- Nitrobenzylanilid, 2015.
- 2-Nitrobenzylaniline, cellulose acetate dyed using, 608.
- 2,4-Nitrobenzylaniline, cellulose acetate dyed using, 608.
- Nitrobenzylcellulose, 1608.
- , dyeing, 126, 1597.
- , mfr. of, 233, 273, 1596, 1598, 1599.
- , wood treated with, 233.
- p*-Nitrobenzylcellulose, mfr., 1598.
- Nitrobenzylcellulose acetate, 1597.

- Nitrobenzyl chloride, 1597, 1609, 1826.  
 —, cellulose etherified with, 272, 1599.  
*m*-Nitrobenzyl chloride, 1596.  
 —, cellulose etherified with, 1598.  
*o*-Nitrobenzylchloride, cellulose etherified with, 1598.  
*p*-Nitrobenzyl chloride, 1598.  
 —, cellulose etherified with, 1598..  
 Nitrobenzylhalide, 1660.  
 Nitrobenzyl lignin, mfr. of, 233.  
*p*-Nitrobenzyl-oxalyl chloride, mfr., 870.  
*p*-Nitrobenzylphenylammonium chloride, 1596.  
 —, nitrobenzyl cellulose dyed with, 126.  
 Nitrobenzylphenyldimethylammonium chloride, 1596.  
*m*-Nitrobenzylphenyldimethylammonium chloride, 1596.  
 —, nitrobenzylcellulose dyed with, 126.  
 2-Nitro-4-brom-acetyl-amino-diphenylamine, cellulose acetate dyed using, 868.  
*p*-Nitrobrombenzene, amines solvent for, 2011.  
 2-Nitrobrombenzene, cellulose ester dyed using, 220.  
 —, cellulose ether dyed using, 220, 2294.  
 2-Nitro-4-brom-diphenylamine, cellulose acetate dyed using, 632.  
 2-Nitro-4'-brom-diphenylamine, cellulose acetate dyed using, 632.  
 2-Nitro-4-brom-ethoxy-diphenylamine, cellulose acetate dyed using, 868.  
 2-Nitro-4-brom-methoxy-diphenylamine, cellulose acetate dyed using, 868.  
 2-Nitro-4-brom-4'-methoxy-diphenylamine, cellulose acetate dyed using, 632.  
 2-Nitro-4-brom-methyl-diphenylamine, cellulose acetate dyed using, 868.  
 1-Nitro-*n*-butane, 1815.  
 Nitroisobutylglycerol trinitrate, 1857.  
 1-Nitrocarbazole, cellulose acetate dyed using, 608.  
 1-Nitrocarbazole, cellulose ether dyed using, 2296.  
*Nitrocarbinol*, see *Nitromethane*.  
*Nitrocellulose*, see *Cellulose nitrate*.  
*Nitrocellulose silks*, see *Filaments, artificial, cellulose nitrate*.  
*Nitrocellulose sulfuric acid esters*, see *Cellulose nitrate, sulfuric acid esters*.  
 2-Nitro-4-chlor-4'-acetamido-diphenylamine, cellulose acetate dyed using, 632.  
 2-Nitro-4-chlor-acetyl-amino-diphenylamine, cellulose acetate dyed using, 868.  
 1-Nitro-4-chloranthraquinone, cellulose acetate dyed with, 551.  
 —, cellulose ether dyed using, 2280.  
 Nitrochlorbenzene, 2003.  
*o*-Nitrochlorbenzene, 1597, 1660.  
 —, cellulose acetate etherified by, 277.  
 —, cellulose ether dyed using, 2279.  
 —, cellulose ether ester made using, 277.  
 —, cellulose etherified by, 277.  
 —, flash point, 2061.  
 2-Nitro-chlorbenzene, cellulose ester dyed using, 220.  
 —, cellulose ether dyed using, 220, 2294.  
 2-Nitro-4'-chlor-diphenylamine, cellulose acetate dyed using, 632.  
 2-Nitro-4-chlor-ethoxy-diphenylamine, cellulose acetate dyed using, 868.  
 2-Nitro-4-chlor-4'-ethoxy-diphenylamine, cellulose acetate dyed using, 532.  
 2-Nitro-4-chlor-methoxy-diphenylamine, cellulose acetate dyed using, 868.  
 2-Nitro-4-chlor-methyl-diphenylamine, cellulose acetate dyed using, 868.  
 2-Nitro-4-chlor-3'-methyl-diphenylamine, cellulose acetate dyed using, 632.



- 2-Nitro-4-chlor-4'-methyldiphenylamine, benzylcellulose dyed using, 2238.  
—, cellulose acetate dyed using, 632.  
—, ethylcellulose dyed using, 2238.  
—, methylcellulose dyed using, 2238.  
*Nitrochloroform*, see *Chlorpicrin*.  
Nitrochlorphenylcellulose, 1597.  
2-Nitro-4-chlorphenyl-ar-tetrahydro-*b*-naphthylamine, cellulose ether dyed using, 2294.  
Nitrochlortoluene, 1826.  
*Nitrocotton*, see *Cellulose nitrate*.  
Nitrocumene, 2004, 2005.  
Nitrocymene, 2003, 2004.  
8-Nitro-1.5-diamino-anilinantraquinone, 2249.  
8-Nitro-1.5-diamino-4-*o*-anisidinoanthraquinone, 2249.  
8-Nitro-1.5-diamino-4-*p*-anisidinoanthraquinone, 2249.  
5-Nitro-1.4-diamino-anthraquinone, cellulose acetate dyed using, 672.  
—, cellulose ether dyed using, 2264.  
8-Nitro-1.5-diamino-4-*p*-chloranilinoanthraquinone, 2250.  
3-Nitro-4-diaminodiphenyl ether, cellulose ether dyed using, 217.  
8-Nitro-1.5-diamino-4-*p*-toluidinoanthraquinone, 2249.  
Nitrodiarylamine, cellulose acetate dyed using, 717.  
—, discharge effect produced by, 219.  
Nitrodiarylamine compounds, cellulose ether dyed using, 2227.  
Nitrodiarylamine series, cellulose ether colored with, 138.  
Nitrodiarylmethane series, cellulose ether colored with, 138.  
—, cellulose ether dyed by dyes of, 141.  
Nitrodiaryl series, cellulose ether ether colored with, 138.  
*p*-Nitrodiazobenzene, cellulose acetate dyed using, 674, 2245.  
4-Nitro-1-diazobenzene, cellulose ester dyed with, 157.  
—, cellulose ether dyed with, 157, 2264.  
Nitrodibenzylidene acetone, 1890.  
Nitrodichlorhydrin, 1844.  
—, cellulose acetate solvent, 1842.  
2-Nitro-1.4-dichlormethylbenzene, cellulose etherified with, 272, 1598, 1599.  
Nitrodichlormethylcellulose, mfr. of, 273.  
Nitrodiethylcellulose, 1672.  
Nitrodimethylcellulose, mfr., 1599.  
*p*-Nitrodiphenylamine, cellulose acetate dyed with, 637.  
2-Nitro-diphenylamine, cellulose acetate dyed using, 632, 750.  
—, cellulose ether dyed using, 2284.  
—, cellulose formate dyed using, 750.  
—, cellulose propionate dyed using, 750.  
Nitroethane, 1815.  
2-Nitro-4'-ethoxy-4-methyl-diphenylamine, cellulose acetate dyed using, 750.  
—, cellulose butyrate dyed using, 750.  
—, cellulose ether dyed using, 2284.  
—, cellulose formate dyed using, 750.  
—, cellulose propionate dyed using, 750.  
Nitroformin, 1926.  
*Nitrogen*, assimilable, see *Nitrogen*, available.  
*Nitrogen carriers*, see *Catalysts*.  
Nitrogen dioxide, 1697.  
—, acetic acid dehydrated using, 1022.  
—, cellulose acetate hydrolyzed using, 1014.  
—, cellulose acetate made using, 1063.  
—, cellulose butyronitrate made using, 1063.  
—, cellulose propionitrate made using, 1063.  
*Nitrogenized rags*, see *Cellulose nitrate*.  
Nitrogen oxide, acetic acid dehydrated using, 988.  
—, cellulose acetate made using, 1019.  
Nitrogen pentoxide, 1697.  
*Nitrogen peroxide*, see *Nitrogen tetroxide*.  
Nitrogen tetroxide, 1697.  
—, acetic anhydride made using, 565.  
—, benzylcellulose viscosity reduced by, 1560.

- Nitrogen tetroxide, carbohydrate xanthate acted on by, 654.  
—, catalyst, 1061.  
—, cellulose acetate hydrolyzed by, 806, 1014.  
—, cellulose acted on by, 654.  
—, cellulose butyronitrate made using, 1063.  
—, starch acted on by, 654.  
Nitrogen trioxide, 1697.  
—, acetic anhydride made using, 497.  
—, carbohydrate xanthate acted on by, 654.  
—, cellulose acted on by, 654.  
—, starch acted on by, 654.  
Nitroglycerol, 1857.  
—, *see also Glyceryl nitrate*.  
5-Nitro-2-*b*-hydroxyethoxyaniline, cellulose acetate dyed using, 674.  
—, cellulose ether dyed using, 2265, 2278.  
*Nitrohydroxylaminic acid*, *see Nitrogen dioxide*.  
*Nitrohydroxylaminic anhydride*, *see Nitrogen dioxide*.  
*Nitro-jute*, *see Jute*, nitration of.  
Nitrolactic esters, 1946.  
Nitroleucotrope, 1596.  
*Nitrolignin*, *see Lignin nitrate*.  
Nitrolinolein, 2056.  
Nitromannite, 2021.  
*Nitromannitol*, *see Nitromannite*.  
Nitromethane, 1815, 1889.  
—, benzylcellulose non-solvent, 230.  
—, cellulose acetate dyed using, 546.  
—, cellulose acetate softener, 2218.  
—, cellulose acetate solvent, 364, 400.  
—, cellulose ether dyed using, 2258.  
—, cellulose ether non-solvent, 230.  
—, cellulose ether plasticizer, 22.  
—, cellulose formate solvent, 640.  
—, cellulose nitrate solvent, 364.  
—, ethylcellulose non-solvent, 230.  
—, ethylcellulose solvent, 19, 1423.  
—, formylnitrate solvent, 640.  
—, solvent, 1801.  
—, starch ether solvent, 1483.  
Nitromethane-alcohol, ethylcellulose xanthanilide solvent, 1644.  
4-Nitro-2-methoxybenzeneazodiethylaniline, benzylcellulose dyed using, 2238.  
—, ethylcellulose dyed using, 2238.  
4-Nitro-2-methoxybenzeneazodiethylaniline, methylcellulose dyed using, 2238.  
4-Nitro-2-methoxybenzeneazodimethylaniline, benzylcellulose dyed using, 2238.  
—, ethylcellulose dyed using, 2238.  
—, methylcellulose dyed using, 2238.  
4-Nitro-2-methoxybenzene-1-azodiphenylamine, cellulose acetate dyed using, 499.  
4-Nitro-2-methoxybenzeneazo-*a*-naphthylamine, cellulose ether dyed using, 2268.  
3-Nitro-2-methyl-1-aminobenzene, cellulose ether dyed using, 2260, 2276.  
—, diazotized, cellulose ether dyed with, 113.  
—, diazotizing with, 113.  
—, diethylaniline-*m*-sulfonic acid diazotized, 113.  
2-Nitro-4-methyl-diphenylamine, cellulose acetate dyed using, 632, 750.  
—, cellulose butyrate dyed using, 750.  
—, cellulose ether dyed using, 2284.  
—, cellulose formate dyed using, 750.  
—, cellulose propionate dyed using, 750.  
2-Nitro-4-methyl-4'-ethoxy-diphenylamine, cellulose acetate dyed using, 632.  
Nitromethyl lignin, mfr. of, 230.  
Nitromethylstyryl ketone, 1890.  
*Nitronaphthalene*, *see Nitronaphthalin*.  
Nitronaphthalin, 1828, 2002, 2003, 2004, 2005.  
—, cellulose acetate plasticizer, 398.  
—, filament, voluminous, made using, 1071, 1075.  
*o*-Nitronaphthalin, flash point, 2061.  
Nitronaphthalin trichloride, 1828.  
Nitronaphthol, 2005.  
Nitronaphthyl acetate, 1906.  
1-Nitro-2-naphthylamine, cellulose acetate dyed using, 612.  
4-Nitro-1-naphthylamine, cellulose acetate dyed using, 612.  
8-Nitro-2-naphthylamine, cellulose acetate dyed using, 546.  
Nitro-oxyacetophenone, 1890.  
Nitro-*p*-oxybenzophenone, 1890.

- Nitro-oxyphenylbenzyl ketone, 1890.  
Nitropentaerythrite, 2058.  
5-Nitro-*o*-phenetidine, cellulose acetate dyed using, 937.  
—, cellulose ether dyed using, 2254.  
Nitrophenetol, delustring with, 210, 2190.  
*Nitrophenic acid*, see *Picric acid*.  
*Nitrophenisic acid*, see *Picric acid*.  
Nitrophenol, 2005.  
—, cellulose acetate plastifier, 340.  
*o*-Nitrophenol, amines solvent for, 2011.  
*p*-Nitrophenol, amines solvent for, 2011.  
—, cellulose ether dyed using, 2279.  
Nitrophenols, cellulose acetate solvent, 1819.  
—, cellulose ether solvent, 1841.  
—, ethylcellulose solvent, 19.  
—, starch ether solvent, 1483.  
Nitrophenylbenzyl ketone, 1890.  
Nitro-*m*-phenylenediamine, cellulose acetate dyed using, 751.  
4-Nitro-*m*-phenylenediamine, cellulose acetate dyed using, 675, 2245.  
Nitrophenylethylcellulose, mfr. of, 273, 1598, 1599.  
*p*-Nitrophenylethyl chloride, cellulose etherified with, 272, 1598, 1599.  
*p*-Nitrophenylhydrazine, amines solvent for, 2011.  
—, cellulose acetate dyed using, 683.  
Nitrophenyl isocyanate, modifying properties of fibers by, 831.  
*o*-Nitro-*b*-phenyl-*b*-phenylamino lactic acid, cellulose ether dyed using, 2270.  
Nitrophenylphosphinic acid, cellulose ester coagulant for, 226.  
—, cellulose ether coagulant for, 226.  
*p*-Nitrophenylphthalimide, delustring with, 2185.  
1-Nitropropane, 1815.  
Nitro-resin, 2005.  
Nitroricinolein, 2056.  
Nitrosaccharose, 2005.  
*m*-Nitro-salicylic acid, see *Anilotic acid*.  
"Nitrosamine," cellulose acetate dyed using, 683.  
4-Nitroso-1-aminobenzene, cellulose ester dyed with, 157.  
—, cellulose ether dyed with, 157, 2264.  
*Nitrosoanthron*, see *Nitro-anthracene*, (9).  
*iso*-Nitrosoantipyrine, see *Nitrophenyldimethylpyrazol*.  
Nitrosodimethylaniline, cellulose acetate dyed using, 904.  
—, cellulose ether dyed using, 2302.  
Nitrosomethylbenzamid, diazomethane made using, 1292.  
Nitroso-methylurethane, 1329, 1489.  
*p*-Nitroso-phenol, cellulose ether dyed using, 2283.  
Nitrosourethane, diazomethane made using, 1292.  
Nitrostarch, 1564, 2021.  
—, manufacture, see *Starch*, *nitrating*.  
2-Nitro-4-sulfobenzene-1-azoethyl-*b*-naphthylamine, cellulose ether dyed with, 131.  
*Nitrosulfuric acid*, denitration, see *Spent acid*, denitration.  
Nitrosyl chloride, benzyl chloride made using, 1293.  
Nitrosylsulfuric acid, acetic acid dehydrated using, 989, 1022.  
Nitrotoluene, 1828, 2003, 2004, 2005.  
—, cellulose ether precipitant, 2086.  
*o*-Nitrotoluene, 1965.  
—, amines solvent for, 2012.  
*p*-Nitrotoluene, 2004.  
—, amines solvent for, 2012.  
—, flash point, 2061.  
Nitrotoluidine, stabilizer, 1564.  
*m*-Nitro-*p*-toluidine, 2014.  
—, developer, 2346.  
—, diazotized, cellulose acetate dyed using, 718.  
5-Nitro-*o*-toluidine, cellulose ether dyed using, 217.  
3-Nitro-4-toluidine, amines solvent for, 2012.  
—, cellulose acetate dyed using, 596.  
—, cellulose ether dyed using, 2277.  
3-Nitro-4.1-toluidine, cellulose ether dyed using, 2257.  
6-Nitro-2-toluidine, cellulose ether dyed using, 2276.  
5-Nitro-*o*-toluidine-*w*-sulfonic acid, cellulose ester dyed using, 281.

- 5-Nitro-*o*-toluidine-*w*-sulfonic acid, cellulose ether dyed using, 281.  
*Nitrotoluol*, see *Nitrotoluene*.  
*o*-*Nitrotoluol*, see *o*-*Nitrotoluene*.  
*p*-*Nitrotoluol*, see *p*-*Nitrotoluene*.  
*Nitrotributyltoluene*, see *Musk*, artificial.  
*Nitrotrichlormethane*, see *Chlorpicrin*.  
*Nitrotrioxyacetophenone*, 1890.  
*Nitrotrioxybenzophenone*, 1890.  
*Nitrourea*, amines solvent for, 2012.  
*Nitrous acid*, benzyl chloride in mfr., 1297.  
 —, cellulose acetate hydrolyzed using, 1014.  
 —, hydrogen bisulfide oxidant, 148.  
*Nitrous anhydride*, see *Nitrogen trioxide*.  
*Nitrous ether*, see *Ethyl nitrite*.  
*Nitrous oxide*, see *Nitrogen monoxide*.  
*Nitroxanthic acid*, see *Picric acid*.  
*Nitroxin*, see *Nitrogen tetroxide*.  
*Nitroxylenes*, 2004, 2005.  
*Nitro-*p*-xylene*, 2005.  
 —, cellulose acetate plastifier, 939.  
 5-Nitro-*m*-4-xylidine, cellulose ether dyed by, 306.  
*Nitroxylol*, see *Nitroxylenes*.  
*Nitroxylcellulose*, 1597.  
 —, mfr., 277.  
*Nitroxyl chloride*, 1597, 1660.  
 —, cellulose acetate etherified by, 277.  
 —, cellulose ether dyed using, 2279.  
 —, cellulose ether-ester made using, 277.  
 —, cellulose etherified by, 277.  
*Nonamethyl starch*, 1477.  
*Nonane*, cellulose ether dyeing using, 2237.  
 —, cellulose ether solvent, 2227.  
 —, solubilizing agent, 2213, 2219.  
*Nonane*, see *A-nonane*.  
*n*-*Nonic acid*, see *Pelargonic acid*.  
*Non-shatterable glass*, see *Glass*, laminated.  
*Non-splintering glass*, see *Glass*, laminated.  
*n*-*Nonylic acid*, see *Pelargonic acid*.  
*Norcamphor*, camphor substitute, 2052.  
*Normal cellulose*, see *Cellulose*, normal.  
*Normal cellulose triacetate*, see *Cellulose triacetate*.  
*Normal pyrotartaric acid*, see *Glutaric acid*.  
*Norman's copper-alkali-cellulose*, 9.  
*Normanol*, see *Ethyl lactate*.  
*Nose*, artificial, mfr., cellulose acetate for, 423.  
*Novolak*, lacquer containing, 1025.  
*Novolithe*, 665, 2567.  
*Nozzle*, spinning, 160, 2108, 2109.  
 —, —, cleaning, 2110.  
*Nucleic acid*, 2613.  
*Nut beige*, cellulose acetate dyed, 1034.  
*Nutmeg oil*, cellulose acetate solvent, 1818, 1819.  
*Obturator*, cellulose acetate for, 2538.  
 —, cellulose ether for mfr., 107.  
 —, cleft palate, cellulose ether for, 614.  
 —, vulcanite for, 107.  
*Ochre*, cellulose acetate dyed with, 568.  
 —, pigment in cellulose lacquer, 582.  
 —, yellow, airplane lacquer containing, 439.  
*Octa-acetyldigluco*, 1937.  
*Octadecadien* (9.11) acid (1), esters of, ink made using, 2474.  
*Octadecadien* (9.11) acid (1) triglyceride, 1580, 1926.  
 —, ink made using, 2474.  
 —, ink, marking, containing, 2330.  
*Octadecyl benzoate*, 1929.  
*Octadecyl oleate*, 1929.  
*Octahedrite*, 2174.  
*Octamethylcellobiose*, 189, 1497, 1510.  
*Octamethyl-lactose*, 1128.  
*Octamethylmelibiose*, 1502.  
*Octamethylsucrose*, 1510.  
*Octamethyltetra-amylose*, 1471.  
*Octamethyluranose*, 1505.  
*Octane*, flash point, 2061.  
*Octene*, see *Caprylene*.  
*Octoacetylcellobiose*, see *Cellobiose octacetate*.  
*Octoacetylsucrose*, 372.  
*Octobromnaphthalene*, 1826.  
*Octochloronaphthalene*, 1826.  
*n*-*Octodecyl alcohol*, dispersing agent, 2209.

- Octodecyl hexahydrosalicylate, wetting out agent, 1236.
- Octodecyl lactate, wetting out agent, 1236.
- Octodecyl lactylsulfonate, wetting out agent, 1236.
- Octofluoronaphthalene, 1826.
- Octoformylcellobiose, *see* Cellobiose octoformate.
- Octoic acid, *see* Caprylic acid.
- Octoic alcohol, *see* Capryl alcohol.
- Octoic aldehyde, *see* Caprylic aldehyde.
- Octomethylsucrose, 42.
- , mfr., 42.
- Octotetra-amylose, mfr., 101.
- n*-Octyl acid, *see* Caprylic acid.
- n*-Octyl alcohol, *see* Capryl alcohol.
- sec*-Octyl alcohol, dispersing agent, 2209.
- sec*-Octylamine, 1082.
- n*-Octylene, *see* Caprylene.
- Octyloxalyl chloride, mfr., 870.
- n*-Octyl palmitate, properties, 732.
- n*-Octyl stearate, properties, 732.
- Oenanthal, 1867.
- , *see also* Heptyl aldehyde.
- Oenanthal ether, cellulose acetate solvent, 1818, 1819.
- Oenanthylic acid, *see* Oenanthic acid.
- Off-set plate, cellulose acetate in mfr., 986.
- Oil, cedar wood, cellulose ether plasticizer, 147.
- , cellulose acetate combined with, 426.
- , cellulose nitrate combined with, 426.
- , container for, protecting, 847.
- , lubricating, filament, hollow, spun, using, 2367.
- , mineral, cellulose ether lubricant, 2231.
- , —, cellulose ether softener, 2218.
- , —, hydrocarbon, solubilizing agent, 2212.
- , —, sulfonated, solubilizing agent, 2212.
- , paraffin, filament, hollow, spun, using, 2367.
- , soluble, cellulose acetate electrication remedied by, 464.
- , sulfonated, benzylcellulose purified by, 1546.
- , sulfur chloride treated, 426.
- Oil allspice, *see* Pimento oil.
- Oil bitter almonds, *see* Benzaldehyde.
- Oil cinnamon, *see* Cinnamic aldehyde.
- Oilcloth, imitation, cellulose acetate for, 368.
- , —, cellulose nitrate for, 368.
- , mfr., cellulose acetate in, 726.
- , tracing, made using, 706.
- Oil cognac, *see* Ethyl oenanthate.
- Oil hedeoma, *see* Pennyroyal oil.
- Oil mezereon, 2446.
- Oil mirbane, *see* Nitrobenzene.
- Oil niobe, 1957.
- Oil pine needles, *see* Pine needle oil.
- Oils, animal, cellulose ether filaments lubricated by, 49.
- , coating against, cellulose acetate for, 2396.
- , delustring with, 2181.
- , drying, containing, 2309.
- , essential, 2044.
- , esterified, 2056.
- , ethylcellulose for emulsifying, 2136.
- , methylcellulose for emulsifying, 2136.
- , nitrated, 2056.
- , vegetable, cellulose ether filaments lubricated by, 49.
- , savin, 2446.
- , turpentine, cellulose ether diluent, 156.
- , *see also* Turpentine oil.
- Oil vitriol, *see* Sulfuric acid.
- Oil of wine, heavy, 2044.
- Oleamide, sulfonated, softener, 1070.
- Oleates, metallic, cellulose acetate plastic containing, 87.
- , —, cellulose formate plastic containing, 87.
- , —, cellulose nitrate plastic containing, 87.
- Olefine, chlorhydrin made using, 474.
- , *see also* Ethylene.
- Oleic acid, 1714, 1892, 1973, 2384.
- , amines solvent for, 2012.
- , celluloid solvent, 890.
- , cellulose acetate dyed in presence of, 991.
- , cellulose acetate filament mfr. using, 342.
- , cellulose acetate ironing temperature reduced by, 933.

- Oleic acid, cellulose acetate solvent, 890, 1785.
- , cellulose ether coagulated by, 133, 2097.
- , cellulose ether dyed using, 2293.
- , cellulose ether emulsified in presence of, 2452.
- , cellulose ether fabric treated with, 106.
- , cellulose ether softener, 2122.
- , cellulose ether treated with, 143.
- , dichlorethylene stabilized by, 1066.
- , dyes dissolved in, 527.
- , esterifying, 642.
- , sizing with, 2141.
- , stencil sheet made using, 661, 2495, 2497, 2499.
- , sulfonated, 2035.
- , trichlorethylene stabilized by, 1066.
- , wetting agent, 2208.
- Oleic acid aminoethylamide, insulating using, 2438.
- Oleic amide, cellulose ether softener, 2218.
- Olein, 2384.
- , cellulose acetate lubricant, 817.
- , cellulose acetate sized using, 696.
- , cellulose acetate softened using, 843, 1070.
- , cellulose ether solvent, 2102.
- , emulsification using, 2451.
- , softener, 2122, 2216.
- , stencil sheet made using, 2488.
- Oleic acid*, see *Oleic acid*.
- Oleoacetin, 1844, 1961.
- Oleodiacetin, 1844, 1925, 1961.
- Oleosulfonic acid, cellulose ether softener, 234.
- Oleum*, see *Pyrosulfuric acid*; *Sulfuric acid*, *fuming*.
- Oleum andropogon citrati*, see *Lemongrass oil*.
- Oleyl alcohol, stencil sheet made using, 2490.
- , sulfonated, softener, 1070.
- Oleyl chloride, 1653.
- Oleyldiethyl-ethylenediamine, 2215.
- Oleyldimethyl-ethylenediamine, 2215.
- Oleylpropylcellulose, 1665.
- Oleyl-sarcosine, softener, 2216.
- Olive, cellulose ether dyed, 2272.
- Olive oil, 1075.
- , amines solvent for, 2012.
- Olive oil, cellulose acetate lubricant, 817, 823.
- , cellulose acetate sizing, 696.
- , cellulose acetate softener, 843, 932, 1070.
- , cellulose ether lubricant, 303.
- , cellulose ether softener, 2122, 2354.
- , cellulose ether solvent, 1841.
- , delustring with, 2182.
- , ethyl alcohol solvent, 19, 1300.
- , emulsion containing, 1569.
- , nitrated, 2056.
- , oxidized, cellulose acetate softener, 459.
- , scroop produced by, 935, 2203.
- , softener, 2216.
- , starch ether solvent, 1483.
- , sulfonated, tinting cellulose ether using, 2231.
- , tinting cellulose ether with, 2231.
- Onyx, imitation, benzylcellulose for, 1556.
- , mfr., 2566.
- Opago, uses in knitting, 735.
- Opalax, 2567.
- Opium*, see *Morphine*.
- Orange, brownish-red, cellulose acetate dyed, 722.
- , cellulose acetate dyed, 265, 551, 596, 601, 611, 612, 632, 662, 683, 693, 712, 750, 751, 845, 846, 873, 1085, 1087.
- , cellulose ester dyed, 148, 157, 195, 217, 219, 243, 284.
- , cellulose ether used, 67, 111, 113, 117, 131, 138, 148, 157, 181, 195, 217, 219, 243, 265, 275, 276, 284, 298, 2221, 2233, 2238, 2253, 2254, 2255, 2257, 2258, 2260, 2261, 2262, 2263, 2264, 2265, 2267, 2268, 2269, 2272, 2273, 2274, 2276, 2277, 2278, 2280, 2281, 2285, 2286, 2288, 2290, 2634.
- , ethylcellulose dyed, 265.
- , film dyed, 2519.
- , golden, cellulose acetate dyed, 265.
- , cellulose ether dyed, 179, 265.
- , ethylcellulose dyed, 265.
- , red, cellulose acetate dyed, 547, 1010.
- , cellulose ether dyed, 2249.
- , nitrobenzylcellulose dyed, 1597.

- Orange, reddish, cellulose acetate dyed, 540, 611.
- , —, cellulose ether dyed, 142, 276, 2233, 2264, 2267, 2268, 2272, 2273, 2276, 2278, 2280, 2286.
- , yellowish, cellulose acetate dyed, 611.
- Orange II, 1753.
- , benzylcellulose dyed by, 62, 1584.
- , cellulose acetate dyed using, 1025.
- , cellulose ester dyed by, 62, 195, 197.
- , cellulose ether dyed with, 195, 197, 2225, 2226.
- , ethylcellulose dyed by, 62.
- , methylcellulose dyed by, 62.
- Orange IV, amines solvent for, 2012.
- Orange G, 2232.
- Orange blossom oil, 1895.
- Orange-brown, cellulose acetate dyed, 1086.
- , nitrobenzylcellulose dyed, 1597.
- Orsacid*, see *Triphenyl phosphate*.
- Ortho-compounds*, see *o-Compounds*.
- Orthoformic ester, 2630.
- Orthoglucosan*, see *Anhydroglucose*.
- Orthophosphoric acid, catalyst in cellulose acetate mfr., 339.
- , cellulose acetate stabilizer, 967.
- , cellulose etherified with, 1432.
- , cellulose nitrate solvent, 692.
- , cellulose pretreated with, 1432.
- , see also *Phosphoric acid*.
- Orthospan, 2567.
- Osmium emulsion, mfr. of, cellulose ether for, 86.
- Osmium selenide, mfr., 2447.
- Osmium telluride, mfr., 2447.
- Osmosis, ultra-filter, cellulose ether for, 2458.
- Osmotic pressure, 1566.
- Ostwald-Auerbach overflow viscometer, 998.
- Ostwald's "peptization rule," 697, 1813.
- Ostwald viscometer, 2654.
- O. V.*, see *Sulfuric acid*.
- Ovalbumin, cellulose acetate combined with, 992.
- , cellulose acetate membrane containing, 1052.
- Overcoat, cellulose ether for mfr. of, 2377.
- Oxalacetic ether*, see *Ethyl oxalacetate*.
- Oxalaldehyde*, see *Glyoxal*.
- Oxalethylene, record, phonograph, made using, 2606.
- Oxalic acid, 1175, 1891, 1947, 2316, 2626.
- , amines solvent for, 2012.
- , acetylating in presence of, 859.
- , benzylcellulose viscosity reduced by, 1558, 1560.
- , bleaching with, 954.
- , cellulose acetate hydrated by, 355.
- , cellulose ether bleached by, 2121.
- , cellulose ether, jelling of, prevented by, 1349.
- , —, livering of, prevented by, 1349.
- , —, precipitation of, prevented by, 1349.
- , cellulose ether color discharged by, 218.
- , cellulose ether depolymerized by, 118.
- , cellulose ether mordanted by, 144.
- , cellulose ether viscosity reduced by, 1362.
- , cellulose nitrate solvent, 1893.
- , ethylcellulose, jelling of, prevented by, 1349.
- , —, livering of, prevented by, 1349.
- , —, precipitating of, prevented by, 1349.
- , ethylcellulose depolymerized by, 246.
- , ethylcellulose solubilized by, 246.
- , jelling prevented by, 2410.
- , glycollic acid from, 186.
- , lacquer containing, 2397, 2422.
- , livering in cellulose ether prevented by, 162, 2410.
- , mfr., 858.
- , methylcellulose, jelling of, prevented by, 1349.
- , —, livering of, prevented by, 1349.
- , —, precipitating of, prevented by, 1349.
- , mordant, 144.

- Oxalic acid esters, benzylcellulose with, 1571.  
—, cellulose ether plastic with, 64.  
Oxalic esters, 1947, 1991.  
—, cellulose acetate solvent, 446.  
Oxalic ether, 1869.  
—, *see also Ethyl oxalate*.  
Oxalins, *see Glyceryl oxalate*.  
Oxalyl urea, *see Parabanic acid*.  
Oxalyl chloride, 1726, 1727.  
—, cellulose oxalate made with, 646.  
Oxamic acid, antacid, 1563.  
—, benzylcellulose stabilizer, 1563.  
Oxamic esters, 1948.  
Oxamide, antacid, 1563.  
—, benzylcellulose stabilizer, 1563.  
—, cellulose acetate delustrated by, 828.  
—, delustrating with, 2184.  
Oxaminic acid, *see Oxamic acid*.  
Oxanilic ester, 1979.  
Oxanilid, 2043, 2184.  
—, amines solvent for, 2012.  
—, nitrostarch stabilizer, 2621.  
—, pearl essence made using, 2621.  
Oxazin, cellulose acetate dyed with, 880.  
—, cellulose ether dyed using, 2244.  
Ox gall, film containing, 2502.  
—, film, photographic, containing, 912.  
*b-Oximinopropane*, *see Acetoxime*.  
Oxindole-6-sulfonic acid, cellulose ether dyed using, 148, 2262.  
Oxonium dyestuff, film, colored, made using, 2531.  
Oxyacetone, *see Acetol*.  
Oxyacetophenone, 1888, 1890.  
Oxyalkylcellulose, 1338, 1398, 1400, 1615, 1659.  
—, acetylating, 283.  
—, mfr., 89, 239, 1383, 1607.  
—, solubility of, 1383.  
—, uses of, 169.  
—, *see also Hydroxyalkylcellulose*.  
Oxalkylcellulose ether, 1400.  
Oxyalkylcellulose xanthate, 1399, 1400.  
—, filament from, 293.  
O-Oxyalkylcellulose xanthate, 1403.  
—, mfr., 247.  
O-Oxyalkylcellulose xanthic acid, 1399.  
1-Oxy-4-aminoanthraquinone, cellulose ether dyed with, 165, 2237.  
4-Oxy-1-aminoanthraquinone-3-sulfonic acid, cellulose ether dyed using, 125, 2260.  
*Oxyanthrol*, *see Anthrarobin*.  
*o-Oxybenzoic acid*, *see Salicylic acid*.  
*p*-Oxybenzaldehyde, mfr., 480.  
Oxybenzenesulfonic acid, cellulose purified by, 1409.  
*p*-Oxybenzophenone, 1888, 1890.  
Oxybenzyl, analysis of, 1531.  
*o*-Oxybenzyl alcohol, cellulose acetate plastifier, 454.  
—, cellulose acetate softener, 576.  
—, mfr., 576.  
—, *see also Saligenin*.  
*p*-Oxybenzyl alcohol, cellulose acetate plastifier, 454.  
—, cellulose acetate softener, 576.  
—, mfr. of, 576.  
4-Oxy-1-*ter*butylbenzene, plastic made containing, 2564.  
Oxybutylcellulose acetate, 1658.  
Oxybutyl starch, cellulose ester size, 286.  
—, sizing with, 2137.  
*b*-Oxybutyraldehyde, cellulose acetate plastifier, 464.  
—, *see also Aldol*.  
*di*-Oxybutyric acid, *see Dioxybutyric acid*.  
*a*-Oxy-*isobutyric acid*, *see Oxybutyric acid*.  
*Oxycaproic acid*, *see Hydroxycaproic acid*.  
*Oxycapronic acid*, *see Leucic acid*.  
*o*-Oxycarboxylic acids, sulfochlorides of, cellulose ether dyed using, 2271.  
Oxycellulose, 326, 1138, 1140, 1142, 1456.  
—, acetylating, 334, 366.  
—, acid-cellulose from, 87.  
—, detection method, 496.  
—, etherification of, 13.  
—, fluorescent power of, 558.  
—, heat action on, 1134.  
—, hydrazones from, 1114.  
—, mfr., 366, 1140.  
—, saccharifying, 1141.  
—, stains caused by, removing, 1141.  
—, tests for, 1142.  
Oxycellulose laurate, gasolene absorbed by, 990.  
Oxycellulose oleate, gasolene absorbed by, 990.



- Oxycellulose palmitate, gasolene absorbed by, 990.  
 Oxycellulose stearate, gasolene absorbed by, 990.  
*Oxychinaseptol*, see *Diaphtherin*.  
 Oxyconiferaldehyde, 1174.  
*Oxycymol*, see *Carvacrol*.  
*Oxydimethylquinizine*, see *Antipyrin*.  
*Oxyethanesulfonic acid*, see *Isethionic acid*.  
*Oxyethylacetanilid*, see *Acetyl-p-phenetidine*.  
 Oxyethylamine, 1658.  
 1-*b*-Oxyethylaminanthraquinone sulfate, cellulose ether dyed with, 139.  
 Oxyethylaminocellulose undecylate, 1671.  
 Oxyethylcellulose, 1614, 1615, 1656, 1754.  
 —, cellulose ester size of, 286.  
 —, mfr., 290.  
 —, sizing with, 2137, 2138.  
 —, see also *Hydroxyethylcellulose*.  
 Oxyethylcellulose acetate, 1399, 1658.  
 —, mfr., 284, 290.  
 Oxyethylcellulose phthalate, mfr., 1614.  
 Oxyethylcellulose succinate, mfr., 1614.  
 Oxyethylcellulose undecylate, 1671.  
 Oxyethylcellulose undecylenate, 1638.  
 Oxyethylmethylcellulose, 1667.  
 Oxyethyl-*a*-naphthylamine, cellulose acetate dyed using, 227.  
 —, cellulose ether dyed using, 227.  
 Oxygen, cellulose oxidized by, 12.  
 Oxyglucal tetra-acetate, 994.  
*tri-Oxyglutaric acid*, see *Adonit*.  
*a-Oxyhexoic acid*, see *Leucic acid*.  
 Oxyhydroquinone triacetate, 330.  
*Oxymalonic acid*, see *Tartronic acid*.  
*Oxymethanesulfonic acid*, 1257.  
*p-Oxymethylacetanilid*, see *Methacetin*.  
*Oxymethylene*, see *Formaldehyde*.  
 Oxymethylfurfural, 1146.  
 Oxy $n$ , benzylcellulose lacquer containing, 193.  
 —, ethylcellulose lacquer containing, 193.  
 —, lacquer containing, 1573.  
*Oxynaphthalenesulfonic acid*, 1426.  
 2-Oxyisonaphthalic acid, cellulose acetate dyed using, 665.  
 —, silk dyed using, 665.  
 2-Oxynaphthalin, cellulose acetate dyed using, 673, 2272.  
*b*-Oxynaphthoic acid, cellulose ether dyed using, 2261, 2285, 2289, 2293.  
 —, *m*-nitranilide of, cellulose ether dyed using, 2268.  
 2,3-Oxynaphthoic acid, cellulose ether dyed using, 242, 2297.  
 2,3-Oxynaphthoic acid anilid, 2017.  
 —, cellulose ether dyed using, 2297.  
 Oxynaphthoic acid arylide, cellulose ether dyed using, 2268.  
*b*-Oxynaphthoic acid arylide, cellulose acetate dyed using, 867.  
 Oxynaphthylaminic ester, 1979.  
*Oxynitrocellulose*, see *Oxycellulose nitrate*.  
*p-Oxyphenyl-a-amidopropionic acid*, see *Tyrosine*.  
 Oxyphenylbenzyl ketone, 1888, 1890.  
 —, see also *Benzöin*.  
*o-Oxyphenylcarbonic acid*, see *Phenylsalicylic acid*.  
 Oxypropylaminocellulose crotonate, 1671.  
 Oxypropylcellulose, 1656.  
 Oxypropylcellulose acetate, 1658.  
 Oxypropylcellulose butyrate, 1656.  
 Oxypropylcellulose crotonate, 1638, 1671.  
 Oxypropyl-1-naphthylamine, cellulose acetate dyed using, 227.  
 —, cellulose ether dyed using, 227.  
 Oxypropyl starch, cellulose ester sizing, 286.  
 —, sizing with, 2137.  
 Oyocetyle, 665, 2567.  
*Oxyquinaseptol*, see *Diaphtherin*.  
*p-Oxyquinoline-n-sulfonic acid*, see *Diaphthol*.  
*Oxysuccinic acid*, see *Maleic acid*.  
*o-Oxytoluene*, see *Cresol*.  
*m-Oxy-p-toluic acid*, see *m-Cresotic acid*.  
 2-Oxytrimethylene-1,3-sulfide, 1590.  
 Ozokerite, insulating using, 825.  
 —, see also *Paraffin*; *Vaseline*.  
 Ozone, cellulose acetate bleached with, 599.

- Ozone, cellulose acetate viscosity lowered by, 1037.
- , cellulose ether viscosity lowered by, 1037, 1363.
- , cellulose oxidized by, 12.
- , cellulose treated with, 1139.
  
- Package, wrapping, cellulose acetate for, 991.
- Packing, hydraulic, cellulose acetate in mfr. of, 487.
- , cotton in mfr. of, 487.
- , flax in mfr. of, 487.
- , jute in mfr. of, 487.
- , tallow in mfr. of, 487.
- Pad, catamenial, cellulose ether for mfr., 178.
- Paint, Albertol resin for, 1585.
- , anti-fouling, cellulose butyrate for, 1703.
- , cellulose palmitate for, 1719.
- , mfr., 576.
- , anti-rust, cellulose trilaurate for, 1717.
- , benzylcellulose for, 1585.
- , benzyl chloride in mfr., 1297.
- , celluloid for, 1585.
- , cellulose acetate, 589.
- , aluminum with, 616.
- , aluminum alloy with, 616.
- , copper with, 616.
- , copper alloy with, 616.
- , lead with, 616.
- , lead alloy with, 616.
- , mfr., 732.
- , tin with, 616.
- , tin alloy with, 616.
- , uses, 726.
- , zinc with, 616.
- , zinc alloy with, 616.
- , cellulose acetate in, 824.
- , cellulose acetate and lead suboxide, 576.
- , dammar, 824.
- , ethylcellulose in mfr. of, 2456, 2457.
- , formaldehyde-urea condensate in mfr., 2457.
- , hydroxybenzyl alcohol in mfr., 2457.
- , lead suboxide and cellulose acetate, 576.
- , linoxyn in mfr., 2457.
- , linseed oil in mfr., 2457.
- , methylcellulose in mfr., 2457.
- , nitrocellulose for, 1585.
  
- Paint, rubber in, 824.
- , sodium butyl-naphthylsulfonate in mfr. of, 2456.
- , ultramarine blue in mfr. of, 2456.
- , varnish, linseed oil, in mfr., 2457.
- , washable, mfr. of benzylcellulose in, 2409.
- , —, ethylcellulose in, 2409.
- , cellulose acetate in mfr., 619.
- , wood flour in mfr., 2457.
- , *see also Lacquers; Varnishes.*
- Painting, cellulose esters for, 198.
- , cellulose ethers for, 198.
- , multiplying of cellulose acetate for, 477.
- Paint remover, carbon tetrachloride in, 1814.
- , mfr., 527.
- , acetone in, 1881.
- , cellulose acetate in, 435, 527, 992.
- , methylene chloride in, 992.
- , stearin in, 992.
- , wax in, 435.
- , starch acetate for, 1493.
- , thickener for, 1092.
- Palatinol A, 1967.
- , *see also Diethyl phthalate.*
- Palatinol C, 1967.
- , *see also Di-n-butylphthalate.*
- Palatinol JC, 1967.
- , *see also Di-iso-butylphthalate.*
- Palatinol M, 1967.
- , *see also Dimethylphthalate.*
- Palatinols, cellulose acetate solvent, 699.
- Palladium, cellulose acetate etherified in presence of, 1434.
- , cellulose benzoate etherified in presence of, 1434.
- , cellulose butyrate etherified in presence of, 1434.
- , cellulose formate etherified in presence of, 1434.
- , cellulose propionate etherified in presence of, 1434.
- Palladium emulsion, mfr. of, cellulose ether for, 86.
- Palladium selenide, mfr., 2447.
- Palladium telluride, mfr., 2447.
- Palmarosa oil, 2044.
- Palmitamide, softener, 1069, 1070.
- Palmitic acid, 1381, 1591, 1655, 1706, 1714, 1719, 2539.

- Palmitic acid, amines solvent for, 2012.  
 —, benzylcellulose lacquer with, 234.  
 —, cellulose ether fabric treated with, 106.  
 —, cellulose ether treated with, 143.  
 —, cotton treated with, 404.  
 —, lacquer containing, 2428.  
 —, softener for cellulose ether, 164.  
 —, stencil sheet made using, 2495.  
 —, sulfonated, 2215.  
 Palmitic amide, cellulose ether softener, 2218.  
 Palmitic anhydride, 1707, 2158.  
 —, properties, 732.  
 Palmitin, 1655, 1884.  
 —, cellulose ether solvent, 2102.  
 Palmitodipalmitin, properties, 732.  
 Palmitodistearin, properties, 732.  
 Palmitoleic acid, 1714.  
 Palmitosulfonic acid, cellulose ether softener, 234.  
 Palmityl chloride, 1706, 1707, 1714, 2158.  
 —, cellulose dipalmitate made using, 579.  
 —, cellulose esterified in presence of, 709.  
 —, mfr., 1705.  
*b*-Palmityl dichlorhydrin, properties, 732.  
 Palmityl-diethyl-ethylenediamine, 2215.  
 Palmityl-dimethyl-ethylenediamine, 2215.  
 Palm oil, sheet, flexible, made using, 468.  
 Pancreatin, guanin purified by, 2617.  
*Pane, window, see Window pane.*  
 Panel, acaroid in mfr., 725.  
 —, cellulose acetate, 725.  
 —, airplane, cellulose acetate in mfr., 754.  
 —, cellulose in mfr., 725.  
 —, gilsonite in mfr., 725.  
 —, sheet, composite, for, 2599.  
 —, soap in mfr., 725.  
*Paper, acetated, see Cellulose acetate, paper.*  
 —, acetation, 313.  
 —, adhesive for, 2598.  
 —, antimony trichloride in coating, 491.  
 —, asbestos, cellulose acetate for improving, 581.  
 Paper, asbestos, potassium nitrate for improving, 581.  
 —, benzylcellulose made from, 207.  
 —, calcium thiocyanate as solvent of, 496.  
 —, carbon, cellulose acetate in mfr., 736.  
 —, —, mfr., 2437.  
 —, —, trade-marking, cellulose acetate for, 995.  
 —, —, cellulose nitrate for, 995.  
 —, casein for waterproofing, 645.  
 —, castor oil treatment of, 970.  
 —, cellulose acetate in, 691.  
 —, cellulose acetate coated, mfr., 542.  
 —, cellulose acetate impregnated, 812, 844.  
 —, cellulose ester for waterproofing, 231.  
 —, cellulose ether, waterproofing, 2636.  
 —, cellulose ether coated, 2434.  
 —, cellulose ether for waterproofing, 231.  
 —, cellulose stearate from, 997.  
 —, cementing, 238.  
 —, cigarette, cellulose acetate for improving, 581.  
 —, —, irradiation of, 915.  
 —, —, mfr., 883.  
 —, —, potassium nitrate for improving, 581.  
 —, clouding on, mfr., 1089.  
 —, coated, benzoic acid and cellulose nitrate for, 645.  
 —, —, borneol and cellulose nitrate for, 645.  
 —, —, monobromcamphor and cellulose nitrate for, 645.  
 —, —, menthol and cellulose nitrate 645.  
 —, —, resorcinol and cellulose nitrate for, 645.  
 —, —, salicylic acid and cellulose nitrate for, 645.  
 —, —, terpene hydrate and cellulose nitrate for, 645.  
 —, —, thymol and cellulose nitrate for, 625.  
 —, coating, cellulose acetate for, 375, 435, 491.  
 —, —, cellulose acetate and resin for, 983.  
 —, —, cellulose acetate and resins for, 994.

Paper, coated, cellulose acetate and rubber for, 994.  
 —, —, iridescent, mfr., 2436.  
 —, decalcomania, mfr., 1018, 2552.  
 —, decorating of, cellulose acetate for, 2434.  
 —, —, cellulose ether for, 2434.  
 —, dimethylcellulose for glazing, 242.  
 —, drying, cylinder for, rust preventing by cellulose acetate, 394.  
 —, esterifying, 997.  
 —, ethylcellulose for cementing, 238.  
 —, ethylcellulose impregnated, 235, 236.  
 —, fire-preventative treatment for, cellulose acetate for, 2436.  
 —, fireproof, borates for mfr. of, 432.  
 —, —, cellulose acetates for mfr. of, 432.  
 —, —, molybdates for mfr. of, 432.  
 —, gelatin, drying, cellulose acetate for, 619.  
 —, gelatin treatment of, 970.  
 —, glazed, mfr., cellulose ether in, 2436.  
 —, —, —, dimethylcellulose for, 286, 2436.  
 —, —, starch for, 242.  
 —, gummed, ethylcellulose laurate for, 201.  
 —, —, mfr., 1670.  
 —, impregnating, cellulose acetate for, 766.  
 —, iridescent, cellulose acetate for producing, 584.  
 —, japanese stencil, mfr., 2491.  
 —, lacquer for, 2420.  
 —, laminated, mfr., 2597.  
 —, mfr., peat for, 1165.  
 —, matt effect on, cellulose ether for, 286.  
 —, negative, cellulose acetate in mfr. of, 573.  
 —, opalescing, 2643.  
 —, parchment, hygroscopicity of, decreasing, 2158.  
 —, parchmented, film, colored, made using, 2532.  
 —, pearly luster, mfr., 820.  
 —, printing, cellulose ether for, 2413.  
 —, pulp, cellulose acetate combined with, 423.  
 —, resin impregnated, 844.

Paper, rubber containing, 900.  
 —, sizing, cellulose acetate for, 489.  
 —, —, cellulose ether for, 235.  
 —, —, feculose for, 489.  
 —, smoothing, cellulose ether for, 235.  
 —, sodium silicate for waterproofing, 645.  
 —, staining, cellulose ether for, 2413.  
 —, surface stretching, cellulose acetate for, 489.  
 —, —, feculose for, 489.  
 —, tissue, acetating, 376.  
 —, —, cellulose acetate coated, 461.  
 —, transfer, decalcomania, 1097.  
 —, treatment of, cellulose acetate for, 970.  
 —, tricesyl phosphate treatment of, 970.  
 —, wall, cellulose acetate coated, 592.  
 —, —, mfr., cellulose ether for, 183, 2437.  
 —, —, waterproofing, cellulose acetate for, 2435.  
 —, —, —, cellulose ether for, 2437.  
 —, washable, borates for mfr. of, 432.  
 —, —, cellulose acetate for mfr. of, 432.  
 —, —, molybdates for mfr. of, 432.  
 —, waterproof, cellulose ester in mfr. of, 488.  
 —, waterproofing, 231, 997.  
 —, —, benzylcellulose for, 202.  
 —, —, cellulose acetate for, 592, 645, 2434.  
 —, —, cellulose ether for, 2434.  
 —, —, dextrin for, 645.  
 —, —, ethylcellulose for, 202.  
 —, —, methylcellulose for, 202.  
 —, —, sodium carbonate for, 645.  
 —, —, stearic anhydride for, 2437.  
 —, yoshino, coating, cellulose ester for, 277.  
 —, —, —, cellulose ether for, 277.  
 —, *see also Cellulose; Cotton; Lignin; Wood.*  
*Paper cements, see Cements, paper.*  
 Paper tube, cellulose ester for waterproofing, 231.  
 —, cellulose ether for waterproofing, 231.  
 —, waterproofing, 231.

- Paper yarn, ethylcellulose in mfr. of, 94.  
Paplex G-20, plasticizer, lacquer, 2400.  
Paplex RG-2, plasticizer, lacquer, 2400.  
*Paracetaldehyde*, see *Paraldehyde*.  
*Para-compounds*, see *p-Compounds*.  
Paracoumarone, benzylcellulose plastifier, 1576.  
—, camphor substitute, 2052.  
—, ethyl sulfate used in mfr., 1288.  
Paracoumarone resin, transfer, multicolor, made using, 2549.  
Paraethyltoluenesulfonamid, cellulose acetate solvent, 1818, 1819.  
Paraffin, acetic anhydride solvent, 768.  
—, airplane coated with, 2484.  
—, alcohol solidified using, 486, 2480.  
—, amines solvent for, 2012.  
—, benzylcellulose treated with, 1562.  
—, case, shot-cartridge, water-proofed by, 1081.  
—, cellulose acetate homogenized with, 946.  
—, cellulose acetate lacquer containing, 841.  
—, cellulose acetate plastic containing, 87.  
—, cellulose acetate softened by, 932.  
—, cellulose acetate solvent, 1819.  
—, cellulose ester delustred by, 221.  
—, cellulose ester relustred by, 221.  
—, cellulose ether delustred by, 221.  
—, cellulose ether relustred by, 221.  
—, cellulose ether solvent, 2102.  
—, cellulose ether treated with, 143.  
—, cellulose ether varnish containing, 101.  
—, cellulose formate plastic containing, 87.  
—, cellulose nitrate plastic containing, 87.  
—, delustring with, 2182, 2183, 2190.  
—, fabric coated using, 2483.  
—, foil made using, 999.  
—, lacquer containing, 2423.  
—, record, phonograph, containing, 2604.  
—, solvent evaporation lessened by, 441.  
—, stencil sheet made using, 2499.  
Paraffin, wire coated with, 2554.  
—, wire gauze coated using, 874.  
Paraffin oil, 1343.  
—, amines solvent for, 2012.  
—, cellulose acetate delustred using, 1008.  
—, cellulose acetate lubricant, 823.  
—, cellulose acetate precipitant, 548.  
—, cellulose ester film strength increased by, 125.  
—, cellulose ether film strength increased by, 125.  
—, cellulose ether softener, 2122.  
—, cellulose ether solvent, 1841.  
—, emulsion containing, 2466.  
—, ethylcellulose solvent, 19, 1300.  
—, ethyl chloride from, 1268.  
—, filament, hollow, made using, 640, 805.  
—, starch ether solvent, 1483.  
—, wire coated with, 2554.  
*Paraffinum*, see *Vaseline*.  
Paraffin wax, stencil sheet made using, 2498.  
*Paraform*, see *Paraformaldehyde*.  
Paraformaldehyde, 1091, 1620, 2446.  
—, benzene sulfonamide condensate of, 173.  
—, resin, artificial, from, 1577.  
—, xylene sulfonamide condensate of, 173.  
—, see also *Formaldehyde*.  
Paraindene, camphor substitute, 2052.  
*Paralactic acid*, see *Sarcosolactic acid*.  
Paraldehyde, 1864, 1865, 1886, 1894, 1996, 1999.  
—, acetic acid made using, 578.  
—, cellulose ether solvent, 283.  
—, ethyl acetate made using, 578.  
—, mfr., 761.  
—, plastic containing, 475.  
Paramine Brown, benzylcellulose dyed by, 62.  
—, cellulose ester dyed by, 62.  
—, cellulose ether dyed using, 2225.  
—, ethylcellulose dyed by, 62.  
—, methylcellulose dyed by, 62.  
Paramine Brown G, 2232.  
Paramine Orange R, 2232.  
*Paramorphine*, see *Thebaine*.  
*Paranitrophenol*, see *Nitrophenol (para)*.

- Paraisopropyl aminobenzene*, see *Cumidine*.  
*Paraisopropyl benzaldehyde*, see *Cuminic aldehyde (p)*.  
*Pararosaniline*, 1744.  
*Paratartronic acid*, see *Racemic acid*.  
*Parchment*, artificial, mfr., 320.  
—, coating, cellulose acetate for, 435.  
—, waterproofing, cellulose acetate for, 589.  
*Parchmentized cellulose*, see *Cellulose, parchmentized*.  
*Parchment papers*, see *Parchment*.  
*Paris blue*, pigment in cellulose acetate lacquer, 582.  
*Parodyne*, see *Antipyrin*.  
*Parsley camphor*, see *Apiol*.  
*Passive cotton*, 899.  
—, mfr., 920.  
*Paste*, stopping, cellulose ether for mfr. of, 166.  
—, surfacing, cellulose ether for mfr. of, 166.  
—, thickening, cellulose propionate for, 1698.  
*Pasteboard*, celluloid coated, 819.  
—, cellulose acetate coated, 819.  
—, cellulose ether for impregnating, 2473.  
—, etherifying, 194.  
*Patent Blue*, 826, 2320.  
*Patent leather*, cellulose acetate for, 368.  
—, cellulose nitrate for, 368.  
—, see also *Leather, patent*.  
*Pattern*, cellulose acetate, 727, 728.  
—, mfr. of, cellulose ester for, 186.  
—, —, cellulose ether for, 186.  
—, scratch, producing, 2342.  
*Pattern effects*, 2346.  
—, producing, 1082, 2346.  
*Pauly silk*, see *Filaments, artificial, Pauly*.  
*Peanut oil*, cellulose acetate sized using, 696.  
—, stencil sheet made using, 2497.  
—, see also *Arachis oil*.  
*Pearl*, 2610.  
—, artificial, 820, 2609.  
—, —, mfr. of, cellulose acetate for, 431, 566, 818.  
—, —, —, cellulose ether for, 46.  
—, —, —, cellulose nitrate for, 431.  
—, —, spherical, mfr., 2616.  
—, imitation, 2609.  
*Pearl*, imitation, mfr., 2343.  
*Pearl essence*, 818, 2609.  
—, mfr., 2612.  
*Pearlite*, 2567.  
*Pearl oil*, see *Amyl acetate*.  
*Peat*, 1164.  
—, acetylating, 1026.  
—, acid from, 461.  
—, aldehydes from, 461.  
—, cellulose acetate from, 1165.  
—, etherifying, 215.  
—, purifying, 215, 1026.  
—, uses, 1165.  
*Pebble*, cellulose acetate effects, 852.  
*Pebble crepe effect*, producing, 2335.  
*Pebble effect*, producing, 935.  
*Pectin-lignin*, 1631.  
*Pectin sugar*, see *Arabinose*.  
*Pectinose*, see *Arabinose*.  
*Pelargonic ether*, see *Ethyl pelargonate*.  
*Pellagra*, anthracene-sulfonic acid in treatment of, 2450.  
—, naphthol sulfonic acid in treatment of, 2450.  
—, naphthylamine-sulfonic acid in treatment of, 2450.  
*Pellastol EN*, 1072.  
*Pellicle Marion*, see *Film*.  
*Pencil*, benzylcellulose for mfr. of, 2539.  
—, drawing, mfr., 2540.  
—, ethylcellulose for mfr. of, 2539.  
—, fats for mfr. of, 2539.  
—, *b*-naphthol-methyl ether for mfr. of, 2539.  
—, oils for mfr. of, 2539.  
—, ornamenting, aluminum for, 843.  
—, —, cellulose acetate for, 843.  
—, —, cellulose ether for, 2540.  
—, —, gelatin for, 843.  
—, —, sodium lactate for, 843.  
—, phenol-resin for mfr. of, 2539.  
—, stains from, removal of, 281, 2552.  
—, waxes for mfr. of, 2539.  
*Penicillium*, 2201.  
—, growth on cellulose acetate fabric, 965.  
*Pennyroyal oil*, 1962, 1964, 1967, 2044.  
—, cellulose acetate solvent, 1818, 1819.  
*b*-Penta-acetyl-galactose, mfr., 837.

- b-Penta-acetylglucose**, mfr., 837.  
**Pentabenzyl sucrose**, 1517.  
 —, mfr. of, 69.  
**Pentabromnaphthalene**, 1826.  
**Pentabromxylylene**, 1826.  
**Pentacetate**, see *Amyl acetate*;  
*Amyl acetate, synthetic*.  
**Pentacetylcellulose**, 4, 321.  
 —, see also *Cellulose acetate*.  
**Pentacetyl dextrose**, 320.  
**Pentacetylgalactose**, 320.  
**b-Pentacetylglucose**, 71, 647.  
**a-Pentacetyl-d-glucose**, mfr., 649.  
**Pentacetyllevulose**, 321, 1937.  
**Pentacetyl-a-methyl-a-glucohepto-**  
**side**, 1507.  
**Pentacetyl-b-methyl-a-glucohepto-**  
**side**, 1507.  
**Pentachlorethane**, 1815, 1818.  
 —, benzylcellulose solvent, 1555.  
 —, cellulose acetate and as plastic,  
 407.  
 —, cellulose acetate plastifier, 383.  
 —, cellulose acetate sheet mfr. us-  
 ing, 430.  
 —, cellulose acetate solvent, 397,  
 406, 458, 472, 813, 1818, 1819,  
 1843.  
 —, cellulose ester coagulated by,  
 133.  
 —, cellulose ether coagulated by,  
 133, 170, 2086.  
 —, cellulose ether dyeing using,  
 2238.  
 —, cellulose ether solvent, 51.  
 —, decomposition of, catalytic,  
 891.  
 —, dichloracetyl chloride from, 507.  
 —, dye solvent, 684.  
 —, ethylcellulose solvent, 19.  
 —, mfr., 396.  
 —, solubilizing agent, 2212.  
 —, starch ether solvent, 1483.  
**Pentachloride**, 1647.  
**Pentachlornaphthalene**, 1826.  
 —, stencil sheet mfr. using, 628.  
**Pentachloropropane**, 1820.  
 —, cellulose ether solvent, 115.  
 —, lacquer containing, 2414.  
**Pentachlortoluene**, 1826.  
**Pentadecanaphthalene**, solubilizing  
 agent, 2219.  
**Pentadecanaphthene**, cellulose  
 ether solvent, 2227.  
 —, solubilizing agent, 2213.  
**Pentaerythrite**, 203, 1856, 2058,  
 2427.  
**Pentaerythrite**, abietic acid con-  
 densed with, 234.  
 —, chlorphthalic acid condensed  
 with, 234.  
 —, diglycollic acid condensed with,  
 234.  
 —, dihydroxybehenic acid condensa-  
 ate of, 303.  
 —, dihydroxystearic acid condensa-  
 ate of, 303.  
 —, esterifying, 980.  
 —, hexa-hydroxystearic acid con-  
 densate of, 303.  
 —, lauric acid condensed with, 234.  
 —, linoleic acid condensed with,  
 234.  
 —, maleic acid condensed with, 234.  
 —, monohydroxystearic acid con-  
 densate of, 303.  
 —, naphthenic acid condensed with,  
 234.  
 —, phthalic acid condensed with,  
 234.  
 —, ricinoleic acid condensed with,  
 234.  
 —, salicylacetic acid condensed  
 with, 234.  
 —, succinic acid condensed with,  
 234.  
 —, tetra-hydroxystearic acid con-  
 densate of, 303.  
 —, tri-hydroxystearic acid condensa-  
 ate of, 303.  
**Pentaerythrite abietate**, benzylcel-  
 lulose with, 1576.  
 —, benzylcellulose lacquer with,  
 234.  
 —, ethylbutylcellulose with, 1576.  
 —, ethylbutylcellulose lacquer with,  
 234.  
 —, ethylcellulose with, 1576.  
 —, ethylcellulose lacquer with, 234.  
**Pentaerythrite acetate**, 1925.  
**Pentaerythrite acid phthalate**, cel-  
 lulose ester plasticizer, 203.  
 —, cellulose ether plasticizer, 203.  
**Pentaerythrite adipate**, 2053.  
**Pentaerythritebenzyl ether**, 1871.  
**Pentaerythritebutyl ether**, 1871.  
**Pentaerythritechlorhydrin**, cellu-  
 lose etherified by, 1401.  
**Pentaerythritechlorphthalate**, ben-  
 zylcellulose with, 1576.  
 —, benzylcellulose lacquer with,  
 234.  
 —, ethylbutylcellulose with, 1576.

- Pentaerythritechlorophthalate,  
ethylbutylcellulose lacquer with,  
234.  
—, ethylcellulose with, 1576.  
—, ethylcellulose lacquer with, 234.  
Pentaerythrite-diethyl ether, 1871.  
Pentaerythrite-diglycollate, 2055.  
—, benzylcellulose with, 1576.  
—, benzylcellulose lacquer with,  
234.  
—, ethylbutylcellulose with, 1576.  
—, ethylbutylcellulose lacquer with,  
234.  
—, ethylcellulose with, 1576.  
—, ethylcellulose lacquer with, 234.  
Pentaerythrite 9.10-dihydroxy-  
stearate, 1940.  
Pentaerythrite distearate, 1940.  
Pentaerythrite ether, 1871.  
—, mfr. of, 222.  
Pentaerythrite ethyl ether, 1871.  
Pentaerythrite formate, 621.  
*Pentaerythrite hexahydrobenzoate*,  
see *Pentaerythritol naphthenate*.  
Pentaerythrite hexastearate, 1940.  
Pentaerythrite laurate, benzylcel-  
lulose with, 1576.  
—, benzylcellulose lacquer with,  
234.  
—, ethylbutylcellulose with, 1576.  
—, ethylbutylcellulose lacquer with,  
234.  
—, ethylcellulose with, 1576.  
—, ethylcellulose lacquer with, 234.  
Pentaerythrite linoleate, 1966.  
—, benzylcellulose with, 1576.  
—, benzylcellulose lacquer with,  
234.  
—, ethylbutylcellulose with, 1576.  
—, ethylbutylcellulose lacquer  
with, 234.  
—, ethylcellulose with, 1576.  
—, ethylcellulose lacquer with, 234.  
Pentaerythrite maleate, 2053.  
—, benzylcellulose with, 1576.  
—, benzylcellulose lacquer with,  
234.  
—, ethylbutylcellulose with, 1576.  
—, ethylbutylcellulose lacquer with,  
234.  
—, ethylcellulose with, 1576.  
—, ethylcellulose lacquer with, 234.  
Pentaerythritemethyl ether, 1871.  
Pentaerythrite-monoethylether,  
1871.  
Pentaerythrite monostearate, 1940.  
Pentaerythrite montanate, 1966.  
Pentaerythrite naphthenate, 1966.  
—, benzylcellulose with, 1576.  
—, benzylcellulose lacquer with,  
234.  
—, ethylbutylcellulose with, 1576.  
—, ethylbutylcellulose lacquer with,  
234.  
—, ethylcellulose with, 1576.  
—, ethylcellulose lacquer with, 234.  
—, mfr. of, 980, 981.  
Pentaerythrite nitrate, 621.  
Pentaerythrite oleate, 1966.  
Pentaerythrite oxalate, 2053.  
—, cellulose ester plasticizer, 203.  
—, cellulose ether plasticizer, 203.  
Pentaerythrite phthalate, benzyl-  
cellulose with, 1576.  
—, benzylcellulose lacquer with,  
234.  
—, cellulose ester plasticizer, 203.  
—, cellulose ether plasticizer, 203.  
—, constants of, 2055.  
—, ethylbutylcellulose with, 1576.  
—, ethylbutylcellulose lacquer with,  
234.  
—, ethylcellulose with, 1576.  
—, ethylcellulose lacquer with, 234.  
Pentaerythrite resinates, 1966.  
Pentaerythrite ricinoleate, 1966.  
—, benzylcellulose with, 1576.  
—, benzylcellulose lacquer with,  
234.  
—, ethylbutylcellulose with, 1576.  
—, ethylbutylcellulose lacquer with,  
234.  
—, ethylcellulose with, 1576.  
—, ethylcellulose lacquer with, 234.  
Pentaerythrite salicylacetate, ben-  
zylcellulose with, 1576.  
—, benzylcellulose lacquer with,  
234.  
—, ethylbutylcellulose with, 1576.  
—, ethylbutylcellulose lacquer with,  
234.  
—, ethylcellulose with, 1576.  
—, ethylcellulose lacquer with, 234.  
Pentaerythrite stearate, 1966.  
Pentaerythrite succinate, 2053.  
—, benzylcellulose with, 1576.  
—, benzylcellulose lacquer with,  
234.  
—, cellulose ester plasticizer, 203.  
—, cellulose ether plasticizer, 203.  
—, ethylbutylcellulose with, 1576.  
—, ethylbutylcellulose lacquer with,  
234.  
—, ethylcellulose with, 1576.



- Pentaerythrite succinate, ethyl-cellulose lacquer with, 234.  
Pentaerythrite tetra-acetate, 1925.  
—, cellulose acetate solvent, 621.  
—, cellulose ether solvent, 52.  
—, mfr., 621.  
Pentaerythrite tetrastearate, 1940.  
Pentaerythrite-triethyl ether, 1871.  
Pentaerythrite tristearate, 1940.  
Pentaethylcellulose, 38.  
—, alkyl content, 1304.  
—, stencil sheet made using, 2495.  
Pentaethyleneglycol, plastic made containing, 2565.  
Pentaethyleneglycol acetate, cellulose acetate solvent, 891.  
Pentaethyleneglycol benzoate, plastic made containing, 2565.  
Pentafluorobenzene, 1826.  
Pentafluornaphthalene, 1826.  
Pentagalloylglucose, record, phonograph, made using, 2606.  
Pentahydrocumene, 1828.  
Pentahydrocymene, 1828.  
Pentahydrotoluene, 1828.  
Pentahydroxylene, 1828.  
*Pentaline*, see *Pentachlorethane*.  
Pentallyl sucrose, 1636.  
Pentamethylcellulose, alkyl content, 1304.  
Pentamethyldiethylmercaptogalactose, 1503.  
Pentamethyldiethylmercaptomannose, 1504.  
Pentamethylenene, 1979.  
3.3-Pentamethylene-5-hydroxymethyldioxole, 2629.  
2.2-Pentamethylene-4-oxymethyldihydrodioxol, 1982.  
—, cellulose ether solvent, 2409.  
Pentamethylgalactose, 1503.  
Pentamethylglucose, 1509, 1510.  
Pentamethylmannitol, 1504, 1505.  
2.3.4.5.6-Pentamethylmannitol, 1504.  
Pentamethylmannonic acid, 1504, 1505.  
Pentamethylmannose, 1504, 1505.  
Pentamethylmannosdimethylacetal, 1505.  
1.1.2.3.3-Pentamethylpentene-1, 1809.  
Pentane, cellulose acetate precipitant, 811.  
—, cellulose nitrate precipitant, 811.  
*n*-Pentane, amines solvent for, 2012.  
*Pentanitroerythrite*, see *Nitroerythrite (penta)*.  
Pentapropyl cellulose, alkyl content, 1304.  
*Pentasol*, see *Amyl alcohol*; *Amyl alcohol*, *synthetic*.  
*Pentasol acetate*, see *Amyl acetate*, *synthetic*.  
*Pentazane*, see *Pyrrolidine*.  
Pentene, ethylcellulose lacquer containing, 2411.  
2-Pentene, amines solvent for, 2012.  
*Pentexcel*, see *Amyl acetate*.  
*Pentoic acid (primary)*, see *iso-Valerianic acid*.  
*iso-Pentoic acid*, see *Propylacetic acid*.  
Pentosan, 1195.  
—, etherifying, 1625.  
—, precipitating, 1245.  
Pentose, 1178, 1456.  
Pentoxide, catalyst in cellulose acetate mfr., 480.  
*iso-Pentyl alcohol*, see *Amyl alcohol*.  
Pentylbenzene, 1810.  
*Pentylformic acid*, see *Caproic acid*.  
Peppermint oil, 1964, 2044, 2045.  
—, cellulose acetate solvent, 1818, 1819.  
*Peppermint camphor*, see *Menthol*.  
Pepsin, guanin purified by, 2617.  
—, silk degummed using, 685.  
Peptizing agent, cellulose acetate as, 963.  
Peracetic acid, 541.  
*Peramyl alcohol*, see *Amyl alcohol*, *synthetic*.  
Perborate, cellulose oxidized by, 12.  
Percarbonate, cellulose oxidized by, 12.  
Perchlorates, cellulose oxidized by, 1140.  
*Perchlorethane*, see *Carbon trichloride*; *Hexachlorethane*.  
Perchlorethylene, 1821, 1825.  
—, benzylcellulose solvent, 1555.  
—, cellulose acetate solvent, 401.  
—, cellulose ether dyeing using, 2237, 2255.  
—, cellulose ether dyed level in presence of, 104.  
—, cellulose ether solvent, 51.  
—, ethylcellulose solvent, 1371.

- Perchllorethylene*, see also *Carbon bichloride*; *Tetrachlorethylene*.  
 Perchloric acid, catalyst in cellulose acetate mfr., 989.  
 —, detection, 989.  
*Perchlormethane*, see *Carbon tetrachloride*.  
*Percussion cap*, see *Cap*, *percussion*.  
 Perilla oil, ethylcellulose and as coating, 222.  
 —, ethylcellulose combined with, 2410.  
 —, coating composition containing, 2546.  
 —, rubber combined with, 2410.  
 Permanganate, cellulose acetate discharge effects produced by, 745.  
 —, cellulose oxidized by, 12, 1140.  
 Permanganate acid, discharge effect on, cellulose ether produced using, 175.  
 Peroxides, cellulose acetate bleached with, 684.  
 —, cellulose oxidized by, 12.  
 —, hydrogen bisulfide oxidant, 148.  
*Persprit*, see *iso-Propyl alcohol*.  
 Persulfate, cellulose oxidized by, 12, 1140.  
 mono-Persulfuric acid, catalyst in cellulose acetate mfr., 1003.  
 Peru balsam, 1959.  
*Peruvian nitrate*, see *Sodium nitrate*.  
*Petrohol*, see *iso-Propyl alcohol*.  
*Petrol*, see *Benzine*; *Gasolene*.  
 Petroleum, acetic acid extracted by, 670, 772.  
 —, acetic anhydride made using, 770.  
 —, cellulose ether precipitant, 2072.  
 —, filament, hollow, spun, using, 2368.  
 Petroleum ether, 1800.  
 —, acetic anhydride made using, 769.  
 —, cellulose acetate delustred by, 776.  
 —, cellulose acetate precipitant, 811.  
 —, cellulose nitrate precipitant, 811.  
 —, cellulose solvent, 1330.  
 —, ethylcellulose, crystalline, solvent, 1336.  
 —, see also *Benzine*.  
 Petroleum jelly, delustring with, 2181.  
 Petroleum naphtha, cellulose ether solvent, 1841.  
 —, see also *Benzine*.  
 Petroleum oil, light, see *Benzine*.  
 Petroleum oil, softener, 2216.  
 Petroleum spirit, 1800.  
 —, see also *Benzine*.  
 Pewter, cellulose ether impregnated with, 2480.  
*Pharmaceutical collodion*, see *Cellulose nitrate*, *pharmaceutical*.  
 Pharmacy, cellulose ether in, 2445.  
 Phenacetin, amines solvent for, 2012.  
 —, *oxy-ethyl acetanilid*, see *Acetphenetidid*.  
 —, see also *Acetyl-p-phenetidine*.  
 Phenanthrene, 1827, 1969.  
 —, cellulose ester non-solvent, 1806.  
 —, cellulose ether plastic with, 64.  
 —, cellulose nitrate gelatinant, 1805.  
 —, delustring with, 2185.  
 —, lacquer containing, 1081.  
 —, plastic containing, 2568.  
 —, resinous products from, 1572.  
 Phenanthryl ether, 1871.  
 Phenanthrylurea, 2029.  
 Phenanthryl urethane, 1956.  
*Phenazone*, see *Antipyrin*.  
 Phenetol, 956, 1822, 1835, 1860, 1870, 1871, 1872.  
 —, acetic acid solvent, 956, 1031.  
 —, camphor substitute, 2052.  
 —, cellulose acetate plasticizer, 398.  
 —, delustring with, 210, 2189.  
 —, see also *Ethyl phenyl ether*; *Phenylethyl ether*.  
 Phenetol acetate, acetic anhydride solvent, 768.  
*Phenic acid*, see *Phenol*.  
*Phenmethylol*, see *Benzyl alcohol*.  
 Phenol, 179, 1091, 1163, 1555, 1569, 1626, 1768, 1858, 1859, 1889, 2020, 2027, 2205, 2320.  
 —, acetylene solvent, 625.  
 —, amines solvent for, 2012.  
 —, bromo, cellulose ether inflammability reduced by, 182.  
 —, cellulose pretreatment of with, 627.  
 —, cellulose acetate acetylated in presence of, 1055.  
 —, cellulose acetate delustred by, 1022.

- Phenol, cellulose acetate dyed using, 547, 750, 751, 2235.  
—, cellulose acetate filament mfr. using, 342.  
—, cellulose acetate gelatinized by, 562.  
—, cellulose acetate plastifier, 339, 340, 352.  
—, cellulose acetate precipitated by, 1043.  
—, cellulose acetate printing, use in, 672.  
—, cellulose acetate protected by, in mercerizing, 616.  
—, cellulose acetate relustred by, 604, 636, 723.  
—, cellulose acetate saponified by, 832.  
—, cellulose acetate solvent, 394, 537, 966.  
—, cellulose acetate swelled by, 553, 967, 1014.  
—, cellulose acetate with as plastic, 579.  
—, cellulose ether collodion containing, 2445.  
—, cellulose ether dyed with, 180, 2255, 2268, 2269, 2286, 2288, 2289.  
—, cellulose ether film strengthened by, 1379.  
—, cellulose ether fixative, 104.  
—, cellulose ether softener, 2150, 2153, 2155, 2156, 2183.  
—, cellulose ether solvent, 51, 106, 1841, 2079.  
—, cellulose ether swelling agent, 217, 2221.  
—, cellulose formylacetate spanoi-fied by, 832.  
—, cellulose gelatinized by, 562.  
—, cellulose nitrate plastifier for, 352.  
—, cellulose phosphoacetate saponified by, 832.  
—, cellulose purified by, 1409.  
—, cellulose sulfacetate saponified by, 832.  
—, cement, waterproof, containing, 431.  
—, damask effect, permanent, produced with, 2340.  
—, delustring with, 217, 2185, 2188, 2197.  
—, dichlorethylene stabilized by, 1066.  
—, ethylcellulose for emulsification of, 2448.  
Phenol, ethylcellulose solvent, 19.  
—, ethylcellulose strengthened by, 1379.  
—, film made using, 2510.  
—, horn, artificial, made using, 2607.  
—, hydrogenation products of, stencil sheet mfr. using, 519.  
—, lacquer containing, 2393.  
—, luster preserving by, 2171.  
—, methylcellulose for emulsifica-tion of, 2448.  
—, methyl starch solvent, 1473.  
—, monohydric cellulose formate solvent, 421.  
—, mordant containing, 843.  
—, mordant for cellulose acetate, 809.  
—, mordant in cellulose ether dyeing, 104.  
—, mordanting with, 2317.  
—, printing cellulose ether using, 2323.  
—, relustring with, 2198.  
—, relustring cellulose acetate with, 723.  
—, resin, synthetic, mfr. using, 1578.  
—, solubilizing agent, 2212.  
—, sulfurized, 2311.  
—, —, cellulose acetate mordanted with, 577.  
—, swelling cellulose ether with, 217.  
—, trichlorethylene stabilized by, 1066.  
—, wetting agent, 2208.  
*Phenol acid, see Phenol.*  
Phenol aldehyde, benzylcellulose combined with, 1364.  
—, cellulose acetate plastic with, 464.  
—, cellulose acetate solvent, 1819.  
—, ethylcellulose combined with, 1364.  
—, fabric coated with, 741.  
—, filament made containing, 2632.  
—, gauze coated with, 741.  
—, methylcellulose combined with, 1364.  
—, netting coated with, 741.  
—, plastic containing, 2570, 2576.  
—, *see also Condensation products.*  
Phenol aldehyde condensate, ben-zene in mfr., 1803.  
—, cellulose ether and as glass laminant, 260.

- Phenol aldehyde condensate, conductors, electric, insulator for, made using, 2442.  
—, stencil sheet made using, 2497.  
Phenol aldehyde condensation product, lacquer containing, 1025.  
Phenol-aldehyde resin, cellulose acetate lacquer containing, 949.  
—, lacquer mfr. using, 2394.  
—, record, phonograph, containing, 2604.  
Phenol benzenesulfonic acid, cellulose ether color discharged by, 218.  
Phenolchlorethylene, cellulose acetate solvent, 401.  
Phenol ester, benzylcellulose solvent, 41.  
—, cellulose acetate plastifier, 370.  
—, ethylcellulose solvent, 41.  
—, propylcellulose solvent, 41.  
Phenol ether, 956.  
—, acetic acid solvent, 1031.  
—, benzylcellulose solvent, 41.  
—, camphor substitute, 2052.  
—, cellulose acetate plastifier, 452.  
—, ethylcellulose solvent, 41.  
—, propylcellulose solvent, 41.  
Phenolethyloxyphenyl sulfonate, 2034.  
Phenolformaldehyde, 1577.  
—, cellulose acetate and, 930.  
—, cellulose acetate plastic with, 440.  
—, cellulose benzoate plastic with, 440.  
—, cellulose palmitate plastic with, 440.  
—, film of, 289.  
—, methylcellulose combined with, 289.  
—, plastic containing, 478, 2559.  
—, *see also* Phenol aldehyde.  
Phenol formaldehyde resin, methylcellulose insolubilized by, 2421.  
Phenol furfural, 1577.  
—, ethylcellulose combined with, 1364.  
—, methylcellulose combined with, 1364.  
Phenol furfuraldehyde, 225.  
—, fabric coated with, 741.  
—, gauze coated with, 741.  
—, netting coated with, 741.  
Phenol furfural resin, 1994, 2375.  
—, glass, laminated, made using, 2592.  
Phenol furfural resin, lacquer mfr. using, 2394.  
Phenol ketone resin, lacquer mfr. using, 2394.  
*Phenolmethylal*, *see* *Salicylaldehyde*.  
Phenolmethyloxyphenyl sulfonate, 2034.  
1-Phenol-3-methyl-5-pyrazolone, cellulose acetate dyed using, 606.  
Phenolnaphthyl sulfonate, 2034.  
Phenolnitronaphthyl sulfonate, 2034.  
Phenolnitrotolyl sulfonate, 2034.  
Phenol-*m*-phenylenediamine-sulfanilic acid, cellulose ester dyed with, 120.  
—, cellulose ether dyed with, 120.  
Phenolphenyl ether, acetic acid solvent, 956.  
—, acetic anhydride solvent, 957, 1048.  
Phenolphenyl sulfonate, 2034.  
Phenol phosphate, benzylcellulose plasticizer, 167.  
—, cellulose acetate plastifier, 391.  
—, cellulose ether plasticizer, 22.  
—, ethylcellulose plasticizer, 167.  
Phenolphthalein, amines solvent for, 2012.  
—, sodium salt of, 2637.  
*Phenol propionic acid (b)*, *see* *Hydro-coumaric acid (p)*.  
Phenolpropyloxyphenyl sulfonate, 2034.  
Phenol resins, stencil sheets made using, 2490.  
Phenols, 1231, 2172.  
—, cellulose acetate delustred using, 607.  
—, cellulose acetate plastifier, 339.  
—, cellulose acetate printing, use in, 672.  
—, cellulose acetate saponified by, 832.  
—, cellulose formylacetate saponified by, 832.  
—, cellulose phosphoacetate saponified by, 832.  
—, cellulose sulfacetate saponified by, 832.  
—, fabric coated using, 2485.  
—, fabric treated with, 2344.  
—, hydrogenated, acetic acid recovery using, 724.  
—, mfr. of, methyl sulfate in, 1264.  
—, tannin made with, 1427.

- Phenol salicylate, horn, artificial, made using, 2608.  
—, *see also* *Salol*.  
Phenol sulfoacetate, cellulose acetate plastifier, 391.  
Phenol sulfonate, 2035.  
Phenol sulfonic acid, catalyst in cellulose acetation, 337, 342, 392.  
—, cellulose ether color discharged by, 218.  
Phenol sulfonic acid condensate, tannin made with, 1427.  
Phenol thiophosphate, cellulose acetate plastifier, 391.  
Phenoltolyl sulfonate, 2034.  
Phenol tribromide, 1826.  
Phenol trichloride, 1826.  
Phenolxylyl sulfonate, 2034.  
Phenones, camphor substitute, 2052.  
Phenoxyacetate, 2018.  
Phenoxyacetic acid, arylamino-arylides of, cellulose acetate solvent, 507.  
Phenoxyacetic acid-ethyl-anilide, cellulose acetate solvent, 507.  
*Phenoxyacetic ether*, *see* *Phenyl acetate*.  
Phenoxyamyl acetate, 1926.  
Phenoxy-benzyl alcohol, camphor substitute, 2052.  
—, cellulose acetate plastifier, 452.  
Phenoxybutyl acetate, 1926.  
Phenoxyethyl acetate, 1926.  
*b*-Phenoxyethyl laurate, leather, artificial, made using, 779.  
*b*-Phenoxyethyl phthalate, 1977.  
—, leather, artificial, made using, 779.  
Phenoxyacetic acid, 1942.  
Phenoxyacetic anhydride, 1942.  
Phenoxyacetic ester, 1942.  
*b*-Phenoxybutyric acid, 1942.  
Phenoxyphosphoric acid, cellulose ester polymerized by, 248.  
—, cellulose ether polymerized by, 248.  
*a*-Phenoxypropionic acid, 1942.  
Phenoxyethyl acetate, 1926.  
Phenoxypropyl acetate, 1926.  
*Phenyl*, *see* *Diphenyl*; *Monophenyl*; *Triphenyl*.  
Phenyl abietate, 1954.  
—, lacquer containing, 2397.  
Phenylacetamide, 2028.  
—, *see also* *Acetanilid*.  
Phenylacetanilid, 1956, 2021.  
Phenylacetate, 1655, 1926.  
—, cellulose acetate made using, 771.  
—, cellulose acetate plastifier, 398.  
—, cellulose acetate solvent, 464, 813.  
—, insulating with, 923.  
Phenyl acetic acid, 190, 1655.  
—, amines solvent for, 2012.  
Phenylacetic acid chloride, 1712, 1714.  
Phenylacetic anhydride, mfr., 454.  
Phenylacet-*a*-naphthalid, 1956, 2021.  
Phenylacet-*b*-naphthalid, 1956.  
Phenylaceto-2-naphthalid, 2024.  
Phenylacetoneitrile, celluloid solvent, 890.  
—, cellulose acetate solvent, 890, 1785.  
Phenylacetyl chloride, 1714.  
Phenylacetyl naphthoate, cellulose acetate plastifier, 550.  
Phenylacetyl oxyoleate, 1939.  
Phenylacetyl oxystearate, 1939.  
—, camphor substitute, 2052.  
Phenylacetyl ricinoleate, 1939.  
—, camphor substitute, 2052.  
Phenylacetyl salicylate, 1963, 2027.  
—, camphor substitute, 2052.  
—, cellulose acetate plastifier, 550.  
Phenyl acid, cellulose acetate dyed using, 673.  
—, cellulose ether dyed using, 2294.  
*meso*-Phenyl acridine, amines solvent for, 2012.  
*a*-Phenyl-acrylic acid, *see* *Atropic acid*.  
*b*-Phenyl-acrylic acid, *see* *Cinnamic acid*.  
*b*-Phenylacrylic esters, 1978.  
*Phenyl alanine*, *see* *Phenyl-amino-propionic acid (a), (b)*.  
*Phenylalyl alcohol*, *see* *Styrone*.  
Phenylamidocarbonate, 1956.  
*Phenylamine*, *see* *Aniline*.  
—, *di*-, *see* *Diphenylamine*.  
*m*-Phenylaminodiamine, cellulose acetate dyed, 547.  
Phenylamine dyes, cellulose ether dyed using, 2284.  
1-Phenylamino-4-amino-anthraquinone, cellulose acetate dyed using, 846.  
1-Phenylamino-4-amino-anthraquinone-3-sulfonic acid, cellulose ether dyed using, 2260.

- 1-Phenylamino-4-amino-7-chloranthraquinone-3-sulfonic acid, cellulose ether dyed with, 125, 2260.  
1-Phenylaminoanthraquinone, cellulose ether dyed using, 2273.  
1-Phenylamino-4-anthraquinone, cellulose ether dyed using, 2251.  
Phenylamino-5-naphthol-7-sulfonic acid, cellulose acetate dyed using, 845.  
2-Phenylamino-5-naphthol-7-sulfonic acid, cellulose acetate dyed using, 845.  
*Phenyl anilidoacetate*, see *Phenylphenylglycine*.  
*Phenylaniline*, see *Diphenylamine*.  
Phenyl anisate, 1966.  
Phenylazo-1-naphthylamine, amines solvent for, 2012.  
*Phenylbenzamide*, see *Benzanilid*.  
Phenyl benzenesulfonic acid, cellulose ether plasticizer, 174.  
Phenyl benzoate, 1959.  
—, camphor substitute, 2052.  
—, cellulose ether solvent, 68.  
*Phenylbenzoylcarbinol*, see *Benzoin*.  
Phenylbenzoylnaphthoate, cellulose acetate plastifier, 550.  
Phenylbenzoyl-oxyoleate, 1939.  
Phenylbenzoyl-oxystearate, 1939.  
—, camphor substitute, 2052.  
Phenylbenzoyl-ricinoleate, 1939.  
—, camphor substitute, 2052.  
Phenylbenzoyl-salicylate, 1963, 2027.  
—, camphor substitute, 2052.  
—, cellulose acetate plastifier, 550.  
Phenylbenzyl ether, 1871, 1969.  
Phenylbenzyl ketone, 1888, 1890.  
Phenylbenzyl-tolyl-urethane, 1956.  
*Phenylboric acid*, see *Borophenyllic acid*.  
Phenyl bromide, cellulose acetate plasticizer, 398.  
Phenyl butyrate, celluloid solvent, 890.  
—, cellulose acetate solvent, 890, 1785.  
*Phenylcarbamide*, see *Phenylurea*.  
4,4'-bis-Phenylcarbamidodiphenyl, cellulose acetate delustred by, 962.  
*Phenylcarbinol*, see *Benzoyl-alcohol*.  
*Phenyl carbylamine*, see *Phenylisocyanide*.  
*Phenylcellulose (tetra)*, see *Tetra-phenylcellulose*.  
Phenyl chlorbenzoate, camphor substitute, 2052.  
Phenyl chloride, cellulose acetylated in presence of, 825.  
—, see *Chlorbenzene*.  
*Phenyl chloroform*, see *Benzotrichloride*.  
Phenylchlorophosphine, cellulose acetate treated with, 997.  
Phenyl chlortoluate, camphor substitute, 2052.  
Phenyl-*m*-cresyl-*b*-naphthyl phosphate, 1898.  
Phenylcresyl phosphate, cellulose acetate plastifier, 571.  
—, mfr., 556.  
*Phenyl cyanide*, see *Benzonitrile*.  
Phenyl-desoxy, 7.  
—, benzoic acid from, 7.  
*b*-Phenyl-desoxy, 7.  
Phenyl dianilid, 1896.  
Phenyl-dicresyl phosphate, cellulose ester plastifier, 147.  
—, cellulose ether plastifier, 147.  
*mono*-Phenyl-dicresyl phosphate, cellulose acetate plasticizer, 799.  
Phenyl diethylcarbamate, 1956.  
Phenyl-diethyl phosphate, benzylcellulose plastifier, 1575.  
—, see also *Diethylphenyl phosphate*.  
Phenyl-dimethylcarbinol, celluloid solvent, 890.  
—, cellulose acetate solvent, 890, 1785.  
Phenyl-dimethyl phosphate, benzylcellulose plastifier, 1575.  
*Phenyl-dimethylpyrazolon*, see *Antipyrin*.  
*mono*-Phenyl-dipropylene glycol, cellulose ester solvent, 57.  
—, cellulose ether solvent, 57.  
*Phenylene*, see *Antipyrin*.  
Phenylenediamine, cellulose ether dyed with, 165, 2248.  
*b*-Phenylenediamine, cellulose ether dyed using, 2302.  
*m*-Phenylenediamine, 1087, 2635.  
—, cellulose acetate dyed using, 606, 610, 673, 751, 809, 883, 2272, 2280.  
—, cellulose acetate impregnated with, 360.  
—, cellulose ether dyed with, 159, 179, 217, 2259, 2264, 2268.

- m*-Phenylenediamine, developer, 2346.  
—, nitrobenzylcellulose dyed with, 1597.  
*o*-Phenylenediamine, amines solvent for, 2012.  
—, cellulose acetate dyed using, 2246.  
*p*-Phenylenediamine, cellulose acetate dyed using, 265, 606, 715, 809, 904.  
—, cellulose ether dyed with, 157, 265, 2254, 2277, 2278, 2284, 2302, 2306.  
—, cellulose ether dyed with *p*-creosol and, 114.  
—, ethylcellulose dyed using, 265.  
—, feathers dyed using, 715.  
—, fur dyed using, 715.  
—, skins dyed using, 715.  
—, *see also p*-Aminoacetanilid.  
*p*-Phenylenediamine-*o*-sulfonate, cellulose ether dyed with, 157.  
*p*-Phenylenediaminesulfonic acid, cellulose ether dyed with, 2277.  
Phenylethane, cellulose acetate precipitated by, 1043.  
—, *see also Ethylbenzene*.  
Phenyl ether, 1963, 1964.  
—, camphor substitute, 2052.  
—, cellulose acetate solvent, 1818, 1819.  
—, cellulose ether solvent, 51.  
—, ethylcellulose solvent, 19.  
—, starch ether solvent, 1483.  
Phenylethyl alcohol, 1863, 1964.  
—, cellulose acetate solvent, 1818, 1819.  
—, cellulose ether solvent, 99.  
—, flash point, 2061.  
—, viscosity cellulose acetate in, 840.  
Phenylethylamine, 1643.  
Phenylethyl carbamate, *see Euphorin*.  
Phenylethylcellulose, mfr. of, 58.  
—, stencil made with, 224, 1569.  
—, stencil sheet made using, 2494.  
—, tetrachloranthracene solvent for, 1828.  
—, tetrachloronaphthalene solvent for, 1828.  
—, trichloranthracene solvent for, 1828.  
—, trichloronaphthalene solvent for, 1828.  
Phenylethyl chloride, etherifying cellulose with, 1298.  
Phenylethylene, 1954.  
—, *see also m*-Styrene; Styrol.  
Phenylethylether, cellulose ether solvent, 51.  
—, *see also Phenetol*.  
*N*-Phenyl-*N*-ethylglycine, cellulose acetate dyed using, 717.  
Phenylethylglycollic acid, 1942.  
Phenylethylglycollic anhydride, 1942.  
Phenylethylphenylcarbamate, 1956.  
Phenylethylsulfone, cellulose acetate plasticizer, 464.  
Phenyl formamide, *see Formanilid*.  
Phenyl formanilid, 1956.  
Phenylformic acid, *see Benzoic acid*.  
Phenyl formyl naphthoate, cellulose acetate plastifier, 550.  
Phenyl formyl oxyoleate, 1939.  
Phenyl formyl-oxystearate, 1939.  
—, camphor substitute, 2052.  
Phenyl formyl-ricinoleate, 1939.  
—, camphor substitute, 2052.  
Phenyl formyl-salicylate, 1963, 2027.  
—, camphor substitute, 2052.  
—, cellulose acetate plastifier, 550.  
Phenylglucosazone, amines solvent for, 2012.  
Phenylglycid, 1831, 1870, 1893, 1894.  
—, cellulose acetate plasticizer, 408.  
Phenylglycidic acid, cellulose acetate dyed using, 493.  
—, cellulose ether dyed using, 2271.  
Phenylglycocoll, *see Phenyl glycine*.  
Phenylglycol ether, 1970.  
—, cellulose acetate plastifier, 534.  
Phenylglycollic acid, *see Mandelic acid*.  
Phenyl hexahydrobenzoate, *see Phenyl naphthenate*.  
Phenyl hydrate, *see Phenol*.  
Phenylhydrazine, amines solvent for, 2012.  
—, celluloid solvent, 890.  
—, cellulose acetate dyed using, 546, 683.  
—, cellulose acetate solvent, 890, 1785.  
—, cellulose ester dyed using, 280.  
—, cellulose ether dyed using, 280, 2283.  
Phenyl hydride, *see Benzene*.

- Phenylhydroxyacetic acid*, see *Mandelic acid*.  
Phenyl hydroxybenzoate, camphor substitute, 2052.  
*a-Phenyl-b-hydroxy-propionic acid*, see *Tropic acid*.  
*Phenyllic acid*, see *Phenol*.  
Phenylimide, cellulose ester dye, 305.  
—, cellulose ether dye, 305, 2283.  
p-Phenyliminoquinonediazide sulfate, diazotypes made using, 2534.  
—, negative diazotypes made using, 2534.  
Phenylisocyanate, 41, 1760, 1761.  
—, cellulose ester made with, 459.  
—, cellulose treated with, 255.  
—, modifying dyeing properties of fibers by, 831.  
*Phenyl isothiocyanate*, see *Phenyl mustard oil*.  
Phenyl-J-acid, cellulose acetate dyed using, 610, 883.  
—, nitrobenzylcellulose dyed with, 1597.  
*Phenyl mercaptan*, see *Thio-phenol*.  
Phenylmercuric bromide, amines solvent for, 2012.  
*Phenylmethane*, see *Toluene*.  
Phenylmethylaniline, methyl sulfate in mfr. of, 1264.  
Phenylmethyl ether, cellulose ether solvent, 51.  
Phenylmethyl ketone, flash point, 2061.  
—, see also *Acetophenone*; *Hypnone*.  
Phenylmethylpyrazolone, cellulose acetate dyed using, 546, 610, 809.  
—, cellulose ether dyed using, 2258, 2275.  
—, dye made using, 2641.  
—, lacquer, colored, containing, 2425.  
1-Phenyl-3-methylpyrazolone, 1085.  
1-Phenyl-3-methyl-5-pyrazolone, 156, 2318.  
—, benzylcellulose dyed using, 1586.  
—, cellulose acetate dyed using, 265, 499, 675, 928.  
—, cellulose ether dyed using, 265, 285, 2254, 2259, 2265, 2278, 2285.  
—, ethylcellulose dyed using, 265.  
—, plastic made using, 2573.  
1-Phenyl-3-methyl-6-pyrazolone, 961.  
*a-Phenyl-naphthalene*, cellulose nitrate with, 1808.  
*b-Phenyl-naphthalene*, cellulose nitrate with, 1808.  
Phenyl-naphthalene sulfonate, cellulose acetate mfr. in presence of, 783.  
Phenyl naphthenate, 1966.  
—, cellulose acetate plastifier, 481.  
—, leather, artificial, made using, 481.  
Phenyl naphthoxylacetate, 1928.  
Phenyl-naphthylamine, 2024.  
Phenyl-a-naphthylamine, cellulose acetate dyed using, 610, 647.  
—, cellulose ether film containing, 2512.  
—, cellulose ether solvent, 106.  
Phenyl-b-naphthylamine, cellulose acetate dyed using, 610, 647.  
Phenyl-1-naphthylamine-8-sulfonate, cellulose acetate dyed using, 646.  
—, cellulose ether dyed using, 2273.  
Phenyl-b-naphthylamine-8-sulfonic acid, cellulose acetate dyed using, 673.  
—, cellulose ether dyed using, 2294.  
Phenyl-b-naphthyl ether, acetic anhydride solvent, 1048.  
Phenylol propane, glass sheets united using, 1570.  
*Phenylone*, see *Antipyrin*.  
Phenyl oxamate, 2031.  
—, record, phonograph, mfr. using, 515, 536.  
Phenylloxamic ester, record, phonograph, mfr. using, 515.  
—, see also *Phenyl oxamate*.  
Phenyl oxanilate, 1979.  
*Phenyl oxide*, see *Diphenyl ether*.  
*Phenyl o-oxybenzoic acid*, see *Phenyl salicylic acid*.  
Phenyl-oxyethylsulfone, 2001.  
Phenyl-oxy-naphthylamine, 1979.  
*Phenylpentane*, see *Amyl benzene* (n).  
Phenyl phenoxyacetate, 1928.  
Phenyl phenylcarbamate, 2629.  
Phenyl phenylglycine, 1793.  
Phenyl phosphate, dental plate made using, 2539.  
Phenyl phosphoric acid dianilid, 1896.  
Phenyl phosphoric ester, 1896.



- Phenylphosphoryl dichloride, cellulose acetate treated with, 997.  
Phenyl phthalate, 1976, 1977.  
—, cellulose acetate solvent, 509.  
—, cellulose ether solvent, 52.  
Phenyl *o*-phthalate, 1977.  
Phenylpropanol chlorhydrin, cellulose etherified by, 1401.  
*Phenyl propionic acid (a)*, see *Hydroatropic acid*.  
*Phenyl propionic acid (b)*, see *Hydrocinnamic acid*.  
Phenyl propionyl naphthoate, cellulose acetate plastifier, 550.  
Phenyl propionyl-oxyoleate, 1939.  
Phenyl propionyl-oxystearate, 1939.  
—, camphor substitute, 2052.  
Phenyl propionyl-ricinoleate, 1939.  
—, camphor substitute, 2052.  
Phenyl propionyl-salicylate, 1963, 2027.  
—, cellulose acetate plastifier, 550.  
Phenylpropyl alcohol, 1835.  
—, cellulose ether solvent, 51.  
Phenylpropyl cinnamate, 1959.  
2-Phenylquinoline, amines solvent for, 2012.  
Phenyl salicylate, 1931, 1947, 1964, 1965, 2022, 2027.  
—, camphor substitute, 2052.  
—, cellulose acetate fire-retardant, 475.  
Phenyl sebacate, 1978.  
*Phenylsulfocarbamide*, see *Phenylthiocarbamide*.  
Phenyl sulfone, amines solvent for, 2010.  
*Phenylsulfono-acetic acid, ethyl esters*, see *Ethylphenylsulfone-acetate*.  
Phenyl tartrate, cellulose acetate solvent, 941.  
*Phenylthiourea*, see *Phenylthiocarbamide*.  
Phenylthiourethane, 125, 1643.  
Phenyl toluate, camphor substitute, 2052.  
Phenyl toluenesulfonate, cellulose acetate plastifier, 862.  
Phenyl *p*-toluenesulfone ether, 2034.  
Phenyl *o*-toluenesulfonic acid, cellulose ether plasticizer, 174.  
Phenyl *p*-toluenesulfonic acid, cellulose ether plasticizer, 174.  
Phenyl-*m*-tolyl-*b*-naphthyl phosphate, 1897.  
Phenyl-*m*-tolyl-*b*-naphthyl phosphate, cellulose acetate plastifier, 972.  
Phenyl *p*-tolyl sulfone, amines solvent for, 2012.  
Phenyltrimethylammonium hydroxide, 1748.  
—, cellulose mercerized by, 1189, 1191.  
—, cellulose solvent, 91.  
Phenylurea, 2024, 2029.  
—, amines solvent for, 2012.  
—, cellulose ether solvent, 54.  
—, substituted, cellulose acetate lacquer containing, 513.  
Phenyl urethane, 1956, 1957, 2031.  
—, cellulose acetate plastic containing, 678.  
—, record, phonograph, mfr. using, 515, 536.  
—, see also *Euphorin*.  
Phenylxylylphosphate, mfr., 556.  
Phenyl-Y-acid, cellulose acetate dyed using, 610.  
*Phloretic acid*, see *Phloretin*.  
*Phlorizin*, see *Phloridzin*.  
Phloroglucinol, 1860.  
—, film made using, 2510.  
*Phlorrhizin*, see *Phloridzin*.  
*Phocenic acid*, see *iso-Propylacetic acid*.  
*Phoenixine*, see *Carbon tetrachloride*.  
Phonograph record, cellulose ether for, 58, 109.  
—, ethylcellulose for, 48.  
—, laminated, mfr., 2604.  
—, resins for, 58.  
—, rosin for, 58.  
—, see also *Record, phonograph*.  
Phorone, 1886, 1887.  
—, cellulose acetate lacquer containing, 513.  
—, cellulose acetate solvent, 513.  
Phosgene, 1679.  
—, acetic anhydride made using, 1047.  
—, cellulose pretreated with, 259.  
—, see also *Carbonyl chloride*.  
Phosphate, loading benzylcellulose with salts of, 1584.  
Phosphatides, hide tanned using, 2456.  
Phosphide, catalyst, 876.  
Phosphine chloride, cellulose ester polymerized by, 248.  
—, cellulose ether polymerized by, 248.

- Phosphine diethylaminochloride, cellulose ester polymerized, 248.
- , cellulose ether polymerized by, 248.
- Phosphine phenylchloride, cellulose ester polymerized by, 248.
- , cellulose ether polymerized by, 248.
- Phosphoformate, amyl acetate as precipitant of, 387.
- , ethyl ether as precipitant of, 387.
- Phosphomolybdic acid, 2417.
- , alkylcellulose treated with, 1426.
- , catalyst in acetic acid mfr., 605.
- , catalyst in methyl acetate mfr., 605.
- , cellulose acetate dye fixative, 675.
- , lakes made with basic dye and, 131.
- , methyl acetate made using, 1045.
- Phosphonitrile chloride, 1064.
- Phosphonitrile halide, 1745.
- Phosphorescent composition, cellulose ester in mfr., 134.
- , cellulose ether in mfr., 134.
- Phosphorescent powder, filament treated with, 2363.
- Phosphoric acid, 1044, 1076, 1677, 1687, 1711, 1895.
- , acetic acid made using, 853, 957.
- , acetic anhydride mfr. using, 626, 769, 853.
- , benzylcellulose electrodeposited in presence of, 103.
- , catalyst, acetaldehyde made using, 473, 671.
- , —, acetic acid made using, 473, 605.
- , catalyst in cellulose acetate mfr., 754, 766, 988.
- , catalyst in cellulose acetylation, 337, 373, 631.
- , catalyst in cellulose acetylation, 893.
- , catalyst in methyl acetate mfr., 605.
- , catalyst of in acetylating, 350.
- , cellulose acetate fireproofing by, 863.
- , cellulose acetate hydrated by, 355.
- , cellulose acetate hydrolyzed in presence of, 927.
- Phosphoric acid, cellulose acetate solubility modified by, 644.
- , cellulose acetate stabilizer, 967.
- , cellulose acetate treated with, 2315.
- , cellulose acetate made uninflammable by, 806.
- , cellulose diformate solvent, 1017.
- , cellulose ether, jelling of, prevented by, 1349.
- , —, livering of, prevented by, 1349.
- , —, precipitating of, prevented by, 1349.
- , cellulose ether fireproofed by, 135.
- , cellulose etherification with, 1432.
- , cellulose ether purified by, 102.
- , cellulose ether softener, 2350.
- , cellulose ether strengthened by, 2131, 2134.
- , cellulose ether swelling agent, 254.
- , cellulose ether viscosity reduced by, 1362.
- , cellulose pretreated with, 650.
- , cellulose purified by, 1408.
- , cellulose solvent, 995.
- , *b*-ethoxypropionic acid made with, 186.
- , ethylcellulose, jelling of, prevented by, 1349.
- , —, livering of, prevented by, 1349.
- , —, precipitating of, prevented by, 1349.
- , ethylcellulose depolymerized by, 246.
- , ethylcellulose electrodeposited in presence of, 103.
- , ethylcellulose mfr. using, 185.
- , ethylcellulose solubilized by, 246.
- , fireproofing with, 2129.
- , flameproofing with, 2129.
- , formic acid concentrated using, 824.
- , gelling prevented by, 2410.
- , insulating with, 923.
- , livering in cellulose ether prevented by, 162.
- , livering prevented by, 2410.
- , mfr. of, 690.
- , mercerizing by, 505.
- , methylacetate made using, 1045.

- Phosphoric acid, methylcellulose, jelling of, prevented by, 1349.
- , —, livering of, prevented by, 1349.
  - , —, precipitating of, prevented by, 1349.
  - , methylcellulose electrodeposited in presence of, 103.
  - , methylethylcellulose electrodeposited in presence of, 103.
  - , viscose treated with, 2315.
  - , *see also* *Metaphosphoric acid*.
- m*-Phosphoric acid, acetic anhydride mfr. using, 632.
- , benzylcellulose made using, 140.
  - , ethylcellulose made using, 140.
  - , methylcellulose made using, 140.
- o*-Phosphoric acid, acetic anhydride mfr. using, 632.
- , benzylcellulose made using, 140.
  - , ethylcellulose made using, 140.
  - , methylcellulose made using, 140.
- Phosphoric anhydride, see Phosphorous pentoxide.*
- Phosphoric ester, 1895.
- Phosphoric oxide, see Phosphorous pentoxide.*
- Phosphoric acid, benzylcellulose electrodeposited in presence of, 103.
- , ethylcellulose electrodeposited in presence of, 103.
  - , methylcellulose electrodeposited in presence of, 103.
  - , methylethylcellulose electrodeposited in presence of, 103.
- Phosphorous bromide, catalyst in cellulose acetate mfr., 773.
- , cellulose acetate mfr., in presence of, 773.
- Phosphorous chloramide, 1746.
- Phosphorous chloride, 1746.
- , catalyst in acetation, 433.
  - , catalyst in cellulose acetate mfr., 773.
  - , cellulose acetate mfr., in presence of, 773.
  - , cellulose ether dyed using, 2287.
  - , cellulose purified by, 1408.
  - , trichlorhydrin made using, 572.
  - , trichlorpropane made using, 572.
  - , *see also* *Phosphorous pentachloride; Phosphorous trichloride.*
- Phosphorous iodide, catalyst in cellulose acetate mfr., 773.
- Phosphorous iodide, cellulose acetate mfr. in presence of, 773.
- , cellulose acetate etherified in presence of, 1434.
  - , cellulose benzoate etherified in presence of, 1434.
  - , cellulose butyrate etherified in presence of, 1434.
  - , cellulose formate etherified in presence of, 1434.
  - , cellulose propionate etherified in presence of, 1434.
- Phosphorous oxychloride, 82, 1426, 1647, 1675, 1676, 1685, 1687, 1688, 1711, 1900.
- , catalyst in cellulose acetate mfr., 343, 919.
  - , catalyst in cellulose formate mfr., 641.
  - , cellulose acetate mfr. using as catalyst, 642.
  - , cellulose acetate treated with, 997.
  - , cellulose aceto-formate mfr. using as catalyst, 642.
  - , cellulose ester polymerized by, 248.
  - , cellulose ester solubility increased by, 789.
  - , cellulose ether made using, 243.
  - , cellulose ether clarified by, 182.
  - , cellulose ether clarity increased by, 1366.
  - , cellulose ether polymerized by, 248.
  - , cellulose ether viscosity reduced by, 1363.
  - , cellulose formate mfr. using as catalyst, 642.
  - , cellulose phosphate made using, 666.
  - , cellulose propionate mfr. using as catalyst, 642.
  - , cellulose purified by, 1408.
  - , cellulose sulfate made using, 666.
  - , cellulose treated with, 115.
  - , cork esterified using, 668.
  - , strengthening cellulose acetate filament by, 1029.
- Phosphorous pentachloride, 1647, 1695, 1715, 1899.
- , catalyst in acetylating, 343, 480.
  - , catalyst in cellulose formate mfr., 641.
  - , catalyst in cellulose triacetate mfr., 789.

- Phosphorous pentachloride, catalyst in cellulose trilaurate mfr., 789.
- , cellulose acetate halogenated made using, 783.
  - , cellulose acetate treated with, 997.
  - , cellulose ether viscosity reduced by, 1363.
  - , cellulose treated with, 115.
  - , ethylchloride made using, 1267.
  - , monochloracetic acid made using, 828.
- Phosphorous pentoxide, 1750.
- , catalyst in cellulose acetation, 339.
  - , cellulose mononitro-diacetate made using, 585.
- Phosphorous sulfide, match head composition containing, 484.
- Phosphorous sulfochloride, cellulose ester polymerized by, 248.
- , cellulose ether polymerized by, 248.
  - , cellulose ether viscosity reduced by, 1363.
- Phosphorous tribromide, 1291.
- Phosphorous trichloride, 1647, 1675.
- , catalyst in cellulose formate mfr., 641.
  - , catalyst in cellulose triacetate mfr., 789.
  - , catalyst in cellulose trilaurate mfr., 789.
  - , cellulose acetate halogenated made using, 783.
  - , cellulose acetate treated with, 997.
  - , cellulose ester polymerized by, 248.
  - , cellulose ether dyeing assistant, 2222.
  - , cellulose ether made using, 243.
  - , cellulose ether polymerized by, 248.
  - , cellulose treated with, 115.
  - , ethyl chloride made using, 1267.
  - , strengthening cellulose acetate filament by, 1029.
- Phosphorous tri-iodide, 56.
- Phosphorus, cellulose acetate etherified in presence of, 1434.
- , cellulose benzoate etherified in presence of, 1434.
  - , cellulose butyrate etherified in presence of, 1434.
  - , cellulose formate etherified in presence of, 1434.
- Phosphorus, cellulose propionate etherified in presence of, 1434.
- , monochloracetic acid made using, 828.
  - , red, catalyst in cellulose acetate mfr., 731.
- Phosphoryl chloride, cellulose compounds of, mfr., 504.
- , cellulose ether dyed using, 2287.
- Phosphotungstic acid, 2417.
- , alkylcellulose, swelling in water, preventing, 85.
  - , alkylcellulose treated with, 1426.
  - , cellulose acetate dye fixative, 675.
  - , ethylcellulose with, 2465.
  - , lakes made with basic dye and, 131.
  - , methylcellulose with, 2465.
- Phosphotungsticmolybdic acid, cellulose acetate dye fixative, 675.
- Phosphotungstomolybdic acid, 2417.
- , lakes made with basic dye and, 131.
- Photograph, colored, cellulose acetate in mfr., 737.
- , enlarging, cellulose ether for, 65.
  - , shading, cellulose acetate for, 736.
- Photographic emulsions, see Emulsions, photographic.*
- Photography, cellulose acetate in, 339, 416.
- , color, cellulose acetate in, 417, 924.
  - , —, cellulose ether in, 47, 2530.
  - , —, cellulose nitrate, 417.
  - , filter in, cellulose ether for, 151.
  - , monochrome, cellulose acetate in, 365.
  - , —, cellulose nitrate in, 365.
  - , multi-color, cellulose ether in, 182.
  - , polychrome, cellulose acetate in, 365.
  - , —, cellulose nitrate in, 365.
  - , screen, cellulose ester for, 300.
  - , —, cellulose ether for, 300.
  - , screen for, cellulose acetate in mfr., 868.
  - , —, mfr., 300.
- Photo screens. see Screens, photo.*
- Phthalamic acid, cellulose ether dyed using, 2280.
- Phthalamide, 1748.

- Phthalamide, cellulose acetate dyed using, 662.  
*Phthaldiamide*, see *Phthalaldiamide*.  
Phthalic acid, 1677, 1793, 1857, 1973, 1993, 2054, 2421, 2426.  
—, cellulose acetate dyed using, 662.  
—, cellulose ether dyed using, 2280.  
—, glycerol condensed with, 234.  
—, lacquer containing, 2397, 2427, 2428.  
—, pentaerythrite condensed with, 234.  
—, resin, artificial, of, 2106.  
—, sorbitol condensed with, 234.  
*m-Phthalic acid*, see *iso-Phthalic acid*.  
Phthalic acid diamide, 2252.  
Phthalic acid glycerol-lauric acid, lacquer containing, 2427.  
Phthalic acid monoamide, 2252.  
Phthalic acid phenolic esters, cellulose acetate solvent, 509.  
Phthalic anhydride, 203, 1044, 1735, 1736, 1967, 2252.  
—, amines solvent for, 2012.  
—, cellulose treatment of with, 255, 2314.  
—, cellulose phthalate made using, 557.  
—, cotton immunized by, 907.  
—, formic acid concentrated using, 824.  
—, glass, substitute of, condensate containing, 836.  
—, lacquer containing, 2393.  
—, linen immunized by, 907.  
—, rayon immunized by, 907.  
—, resin of triethyleneglycol and, 795.  
Phthalic anhydride-glycerol resin, benzylcellulose plasticizer, 174.  
Phthalic esters, 1967, 1992.  
*Phthalic ether*, see *Ethyl phthalate*.  
Phthalimide, 1645, 2018, 2252.  
—, amines solvent for, 2012.  
—, cellulose dixanthate combined with, 148.  
—, cellulose ether delustred with, 185.  
—, cellulose xanthate combined with, 148.  
—, delustring with, 185.  
—, delustring prevented by, 197.  
—, lacquer containing, 1081.  
—, relustring with, 2201.  
Phthalimide, starch xanthate combined with, 148.  
1-Phthalimidoanthraquinone, cellulose acetate dyed using, 1025.  
Phthalonic acid, 1978.  
Phthalylchloride, cellulose treated with, 2314.  
—, cotton immunized by, 907.  
—, linen immunized by, 907.  
—, rayon immunized by, 907.  
*Phycite*, see *Erythrite*.  
Picein, 1132.  
Picoline, 2031, 2033.  
—, cellulose acetate solvent, 1819.  
—, cellulose ether solvent, 1841.  
—, ethylcellulose solvent, 19.  
—, starch ether solvent, 1483.  
*a-Picoline*, 1713, 1769.  
—, ethylcellulose xanthanilid solvent, 1644.  
Picoline chloride, acetic anhydride made using, 770, 865.  
Picoline phosphate, acetic anhydride made using, 770, 865.  
Picoline sulfate, acetic anhydride made using, 770, 865.  
Picolinic acid, 1730.  
Picramic acid, benzylcellulose dyed using, 1586.  
—, cellulose acetate dyed using, 610, 776, 857.  
—, cellulose ether dyed using, 2287.  
—, diazotized, cellulose ether dyed with, 159, 2280.  
—, cellulose acetate dyed using, 676.  
*Pieraminic acid*, see *Picramic acid*.  
Picric acid, amines solvent for, 2012.  
—, cellulose acetate dyed using, 857.  
—, cellulose acetate paint containing, 732.  
—, crystal effects produced with, 2429.  
*Picrinic acid*, see *Picric acid*.  
Picrocarmine K, 967.  
—, cellulose acetate identified using, 730.  
*Picronitric acid*, see *Picric acid*.  
Picture, motion, screen, mfr., 1095.  
—, transfer, mfr., 2551.  
Piece goods, cellulose acetate, dyeing, 673.  
Pigments, cellulose acetate delustred using, 607.

- Pigments, cellulose ether impregnated with, 2479.  
—, dispersing cellulose ether for, 2478.  
—, fabric treated with, 2344.  
—, mfr., cellulose ether for, 130.  
—, opacity of, 2177.  
—, *see also* Lakes.  
Pigmentations, anthracene-sulfonic acid in treatment of, 2450.  
—, naphthol-sulfonic acid in treatment of, 2450.  
—, naphthylamine-sulfonic acid in treatment of, 2450.  
Pigmentosum, anthracene-sulfonic acid in treatment of, 2450.  
—, naphthol-sulfonic acid in treatment of, 2450.  
—, naphthylamine-sulfonic acid in treatment of, 2450.  
*Pile fabric, see Fabric, pile.*  
Pimelic acid, glyceryl condensate of, cellulose acetate plastifier, 939.  
*n*-Pimelic acid, 1984.  
Pimelic ketone, 1984.  
Pinacoline oxime, 1887.  
Pinacone, mfr., 456.  
—, wetting out agent, 1236.  
—, *see also* Tetramethylethylene glycol.  
Pinacone chlorhydrin, cellulose etherified by, 1401.  
Pinacone diacetate, 1856.  
—, cellulose acetate solvent, 456.  
Pine, acetylation, 792, 877.  
—, etherifying, 290.  
—, *nitrated, see Nitrolignin.*  
Pinene, 2045.  
—, celluloid solvent, 890.  
—, cellulose acetate solvent, 890, 1785.  
—, cellulose ether solvent, 106, 2227.  
—, solubilizing agent, 2213, 2219.  
Pine needle oil, 1964.  
—, cellulose acetate solvent, 1818, 1819.  
Pine oil, 1071, 2046.  
—, cellulose acetate and, 968.  
—, cellulose nitrate and, 968.  
—, delustring with, 2181.  
*Pine wood, see Wood, pine.*  
Pin holes, 2197.  
Pink, bluish, cellulose ether dyed, 131.  
—, cellulose acetate dyed, 551, 611, 612, 673, 674, 845, 2250.  
Pink, cellulose ester dyed, 196.  
—, cellulose ether dyed, 196, 2263, 2280, 2294.  
Pinol, 1857, 1886, 1894.  
*Pinol hydrate, see Sobrerol.*  
*Pinus sylvestris, 1995.*  
*Piperazidine, see Piperazine.*  
Piperazine, 1603, 1638, 1639, 1641, 1730, 1747, 1748, 1765, 2628.  
—, alkalicellulose compound with, 305.  
—, cellulose derivative made using, 250.  
—, cellulose etherified using, 255.  
—, cellulose ether made using, 250.  
—, cellulose treated with, 250.  
Piperidine, 1603, 1639, 1647, 1730, 1744, 1747, 1749, 1753, 1768, 1827, 2033, 2384.  
—, celluloid solvent, 890.  
—, cellulose acetate dyed using, 530, 531, 548.  
—, cellulose acetate solvent, 890, 1785.  
—, cellulose ether dyeing assistant, 2222.  
—, cellulose ether lacquer containing, 155.  
—, cellulose ether plasticizer, 295.  
—, cellulose ether solvent, 2545.  
—, electrical discharge in fibers prevented by, 215.  
—, hydrolyzing cellulose acetate with, 421.  
—, insulating using, 2438.  
—, lacquer containing, 2418.  
—, rubber solvent, 2545.  
Piperidine chloride, acetic anhydride made using, 770, 865.  
Piperidine phosphate, acetic anhydride made using, 770, 865.  
Piperidine sulfate, acetic anhydride made using, 770, 865.  
Piperonal, 403.  
Piperonyl, lignin component, 794.  
Pipes, insulating, cellulose acetate for, 2439.  
Pitch, coal, ethylcellulose and, 236.  
—, dry cell seal made using, 2408.  
—, leather substitute containing, 461.  
—, petroleum, ethylcellulose and, 236.  
Pith, vegetable, etherification of, 12.  
*Placidol A, see Amyl phthalate.*  
*Placidol B, see Butyl phthalate.*

*Placidol E*, see *Ethyl phthalate*.

Plait, stiffening, cellulose acetate, 1089.

Plants, films of, cellulose acetate for, 963.

Plastabrac AA, 1955.

Plastacele, 2567.

Plaster, adhesive, cellulose acetate for, 1098.

—, asbestos and cellulose ether with, 153.

—, graphite and cellulose ether with, 153.

—, lithopone and cellulose ether with, 153.

—, mica and cellulose ether with, 153.

—, slag-wool and cellulose ether with, 153.

—, slate and cellulose ether with, 153.

—, talc and cellulose ether with, 153.

—, white lead and cellulose ether with, 153.

Plaster-of-Paris, artificial, mfr., 2635.

Plastic, acetone cinchonine in mfr. of, 549.

—, artificial resin for mfr. of, 173.

—, bakelite and cellulose acetate, 840.

—, benzoyl chloride in mfr. of, 1035.

—, benzyl acetate containing, 520.

—, benzylcellulose in mfr., 2556.

—, benzylchloride in mfr., 1297.

—, cellulose acetate, 740, 756, 816, 846, 897, 1690.

—, —, coalescing, 740.

—, —, dyeing, 1100.

—, —, mfr., 525, 526, 532, 543, 558, 563, 702, 742, 743, 764, 766, 804, 818, 837, 880, 960, 1011, 1027, 1030, 1040, 2558.

—, —, moisture in, 948.

—, —, uses, 463, 690.

—, —, see also *Cellulose acetate plastic*.

—, cellulose acetate and artificial resin, 814.

—, cellulose acetate and bakelite, 840.

—, cellulose acetate and triacetin as, 580.

—, cellulose acetate and triphenyl phosphate as, 580.

Plastic, cellulose benzoate for, 1734.

—, cellulose ether in, 2556, 2568.

—, cellulose ether, colored, mfr., 2572.

—, —, mfr., 111, 164, 1027.

—, cellulose ether-ester in mfr., 2556.

—, cellulose propionate for, 1698.

—, cellulose trilaurea in mfr. of, 1666.

—, cellulose trisulfate for, 1681.

—, colored, mfr., 2558.

—, dammar in, 983.

—, ethylcellulose, mfr., 192, 2556.

—, ethylcellulose linoleate in mfr. of, 1666.

—, ethylcellulose stearate in mfr. of, 1666.

—, ethylene chlorbromide containing, 520.

—, lithopone in, 983.

—, mfr. of, cellulose acetate in, 520, 549, 997.

—, —, cellulose butyrate for, 559.

—, —, cellulose laurate for, 983.

—, —, cinchonine sulfate in, 549.

—, —, dialkyl phthalate in, 997.

—, —, dimethylaniline in, 1035.

—, —, dioxydiphenyldimethylmethane in, 416.

—, —, naphthalene in, 549.

—, —, ureaformaldehyde in, 997.

—, —, wood in, 1035.

—, methylcellulose in mfr., 2556.

—, peat for, 1165.

—, polishing, 2570.

—, powdered, cellulose ether mfr., 164.

—, —, mfr., 129.

—, propyl alcohol containing, 520.

—, propylcellulose for, 1338.

—, resin in, 983.

—, slate meal in, 983.

—, starch acetate for, 1493.

—, starch formaldehyde, 565.

—, talc in, 983.

—, triacetin and cellulose acetate as, 580.

—, triphenyl phosphate and cellulose acetate as, 580.

—, see also *Solvent*.

*Plastic A*, see *Glyceryl tribenzoate*.

Plastic enamel, mfr., 100, 1859.

Plasticizer, definition of, 1789.

—, evaporative speed of, 1041.

- Plasticizer, solid, effect on cellulose acetate, 984.  
*Plastic X*, see *Tricresyl phosphate*.  
 Plastilume, 2567.  
 Plastin, 665, 2567.  
 Plastoform I, 1863.  
 —, see also *Benzyl alcohol*.  
 Plastoform II, 1863.  
 —, see also *Phenyl ethyl alcohol*.  
*Plastol X*, see *Tricresyl phosphate*.  
*Plastolin I*, see *Benzyl acetate*.  
*Plastolin II*, see *Amyl salicylate*.  
 Plastometer, 703.  
 Plate, acoustic, mfr., 703.  
 —, cellulose acetate, drying, 720.  
 —, —, mfr., 702.  
 —, full-tone, cellulose acetate for, 727.  
 —, half-tone, cellulose acetate for, 727.  
 —, intaglio, cellulose acetate in mfr., 986.  
 —, —, mfr., 2552.  
 —, —, —, cellulose ether for, 2402.  
 —, —, varnishing, cellulose ether for, 2402.  
 —, lithographic, mfr. of, cellulose ether for, 2402.  
 —, —, varnishing, cellulose ether for, 2402.  
 —, off-set, cellulose acetate in mfr., 986.  
 —, photographic, cellulose acetate coated, 719.  
 —, —, lampblack coated, 719.  
 —, —, slide for, cellulose acetate, 941.  
 —, plastic, mfr., 2574.  
 —, printing, 479.  
 —, —, gelatin, mfr. of, 572.  
 —, —, mfr. of, cellulose acetate in, 572, 648, 727.  
 —, reinforced, benzylcellulose for, 1570.  
 —, relief, mfr. of, cellulose ether for, 2402.  
 —, —, varnishing, cellulose ether for, 2402.  
 —, sensitized, cellulose acetate in, 346.  
 —, stamping, cellulose acetate in mfr., 479.  
 —, stereotype, mfr., 2559.  
 —, transparent, mfr. of, cellulose ether for, 2402.  
 —, —, varnishing, cellulose ether for, 2402.  
 Plate, typographical, mfr., 2552, 2559.  
 —, waterproofing, cellulose ether for, 2403.  
*Platinized magnesium sulfate*, see *Magnesium sulfate, platinized*.  
*Platinized pumice*, see *Pumice, platinized*.  
 Platinum, acetaldehyde oxidized by, 454.  
 —, acetic acid made using, 454.  
 —, cellulose acetate etherified in presence of, 1434.  
 —, cellulose benzoate etherified in presence of, 1434.  
 —, cellulose butyrate etherified in presence of, 1434.  
 —, cellulose ether impregnated with, 2480.  
 —, cellulose formate etherified in presence in, 1434.  
 —, cellulose propionate etherified in presence of, 1434.  
 Platinum amyl phthalate, 1975.  
 Platinum butyl phthalate, 1975.  
 Platinum emulsion, mfr. of, cellulose ether for, 86.  
 Platinum ethyl phthalate, 1975.  
 Platinum methyl phthalate, 1975.  
 Platinum propyl phthalate, 1975.  
 Platinum selenide, mfr., 2447.  
 Platinum telluride, mfr., 2447.  
*Playing cards*, see *Cards, playing*; *Horn, artificial*.  
 Plum, cellulose acetate dyed, 606.  
 —, cellulose ether dyed, 2254.  
*Plumbic*, see *Lead*.  
 Plush, cellulose acetate, mfr., 797, 2341.  
 —, dyeing, 797.  
 —, hollow filament in mfr. of, 1006.  
 Plynalith, 2567.  
 Plywood, 2597.  
 —, cellulose acetate coated, 613.  
*Pneumosan*, see *Amyl thiotri-methylamine*.  
 Poiseuille's law, 819.  
 Poker chips, cellulose acetostearate for, 1717.  
 —, cellulose elaidate for, 1717.  
 —, cellulose laurate for, 1717.  
 Polish, cellulose acetate for, 2395.  
 —, cyclohexanol in mfr., 1983.  
 —, shoe, mfr. of, acetone in, 689.  
 —, —, —, amyl acetate in, 689.  
 —, —, —, celluloid in, 689.  
 —, —, —, cellulose acetate in, 689.



- Polish, shoe, mfr. of, methyl alcohol in, 689.  
—, —, —, shellac in, 689.  
Polishing device, dental, celluloid for, 2539.  
Polyaminoanthraquinone, cellulose ether dyeing using, 2232.  
Polyaminoanthraquinone chloride, cellulose acetate dyed using, 925.  
Polyaminoanthraquinone hydrohalide, cellulose ether dyed using, 2230.  
Polyamyloglucan, 911.  
Polyazo-compounds, cellulose ether dyed using, 2227.  
Polybromacetic acid, cellulose acetate made using, 771.  
Polybromantracene, ethylcellulose colloided by, 222.  
Polybromnaphthalene, ethylcellulose colloided by, 222.  
Polybrompropionic acid, cellulose acetate made using, 771.  
Polycelloglucan, 911.  
Polycelloglucan diacetate, 1114.  
Polycelloglucan dihydrate, 1114.  
—, viscosity, 1115.  
Polychloracetic acid, butyric anhydride made using, 771.  
—, cellulose acetate made using, 771.  
—, propionic anhydride made using, 771.  
Polychlorated hydrochloric ether, 1815.  
Polychlorpropionic acid, cellulose acetate made using, 771.  
*Polychrome*, see *Aesculin*.  
*Polychromic acid*, see *Aloetic acid*.  
Polyethyleneglycol monoethyl ether acetate, 1855.  
Polyethyleneglycol monoethyl ether benzoate, 1855.  
Polyglucan diacetate, 911.  
Polyglucan dihydrate, 911.  
Poly-(2.3.6-glucan) dihydrate, 911.  
Polyglucan dimethyl ether, 911.  
Polyglycerol, glass, laminated, made using, 2589.  
Polyglycol, cellulose acetate shrinkage prevented by, 804.  
—, cellulose ester solvent, 57.  
—, cellulose ether made using, 2460.  
—, cellulose ether plasticizer, 140.  
—, cellulose ether solvent, 57.  
—, glass, laminated, made using, 2586.  
Polyhydric phenol, cellulose formate solvent, 421.  
Polyhydroxyanthraquinone, cellulose acetate dyed using, 712.  
Polyhydroxybenzene acetate, cellulose ether solvent, 54.  
Polylichenoglucan, 911.  
Polymethylene derivatives, 1979.  
 $\alpha$ -Polymethylstyrene, 1810.  
Polyoses, etherified, 44.  
Polyoxymethylenes, 1107.  
Polyphenols, cellulose acetate acetylated in presence of, 1055.  
—, cellulose acetate saponified by, 832.  
—, cellulose formylacetate saponified by, 832.  
—, cellulose phosphoacetate saponified by, 832.  
—, cellulose sulfacetate saponified by, 832.  
Polyprenes, cellulose ether spinning bath containing, 2083.  
—, filament cleaned by, 257.  
—, film cleaned by, 257.  
—, ribbon cleaned by, 257.  
—, thread cleaned by, 257.  
Polyricinoleic ester, mfr., 591.  
Polysaccharides, 2058.  
—, hydrobromic action on, 1135.  
Polysaccharide ether, mfr. of, 236.  
Polysaccharide ether abietate, mfr. of, 236.  
Polysaccharide ether benzoate, mfr. of, 236.  
Polysaccharide ether laurate, mfr. of, 236.  
Polysaccharide ether linoleate, mfr. of, 236.  
Polysaccharide ether oleate, mfr. of, 236.  
Polysaccharide ether palmitate, mfr. of, 236.  
Polysaccharide ether phenylacetate, mfr., of, 236.  
Polysaccharide ether salicylate, mfr. of, 236.  
Polysaccharide ether stearate, mfr. of, 236.  
Polysaccharide ether undecylate, mfr. of, 236.  
Polysaccharide glycollates, 56, 57.  
Polysaccharides, acetylated, mfr., 462.  
—, ethers of, 56.  
—, hydrolysis of, 231.  
—, methylation of, 94.

- Polysaccharide triacetates, mfr., 704.  
Polystyrene, 1089, 1115, 1810.  
Polyterpenes, cellulose ester coagulated by, 133.  
—, cellulose ether coagulated by, 133, 2097.  
Polytriacetylcelloglucan diacetate, 911, 1114.  
Polytrialkylcelloglucan diacetate, 1106.  
Polyvinic alcohol, plastic made using, 2578.  
Polyvinyl acetate, 1994, 2162.  
—, cellulose acetate spun with, 2084.  
—, constants of, 2056.  
—, resin of formaldehyde and, 238.  
Polyvinyl acetate resin, glass, laminated, made using, 2591.  
Polyvinyl alcohol-benzaldehyde, plastic made using, 2578.  
Polyvinyl chloracetate, resin of formaldehyde and, 238.  
Polyvinyl chloride, 1994.  
—, resin of formaldehyde and, 238.  
Polyvinyl compound, resin of formaldehyde and, 238.  
—, sizing with, 2138.  
Pomade, mfr., cellulose nitrate for, 2448.  
—, —, ethylcellulose for, 2448.  
*Ponolith*, see *Lithopone*.  
Ponsol Blue, 851.  
—, glass, laminated, made using, 2596.  
Pontianac, 2042.  
—, amyl furoate solvent for, 1997.  
—, benzylcellulose and, 175, 178.  
—, butyl furoate solvent for, 1997.  
—, constants of, 2056.  
—, ethylcellulose and, 175, 178.  
—, ethyl furoate solvent for, 1997.  
—, furfural solvent for, 1997.  
—, furfuryl alcohol solvent for, 1997, 1999.  
—, methylcellulose and, 175, 178.  
—, methyl furoate solvent for, 1997.  
—, propyl furoate solvent for, 1997.  
—, tetrahydrofurfuryl alcohol solvent for, 1997.  
Poppy seed oil, 1669.  
—, emulsion containing, 1569.  
Posts, wood, preserving, cellulose acetate for, 358.  
Potash alum, alkylcellulose, swelling in water, preventing, 85.  
—, ethylcellulose with, 2465.  
—, methylcellulose with, 2465.  
Potassium abietate, sizing with, 2141.  
Potassium acetate, 1606, 1695.  
—, acetic acid from, 801.  
—, acetic acid mfr. using, 633.  
—, acetic acid concentrating using, 721, 782, 808.  
—, acetic acid recovered using, 730.  
—, acetating in presence of, 359, 1057.  
—, acetone made using, 772.  
—, cellulose acetate hydrated in presence of, 356.  
—, cellulose acetate ironing temperature reduced by, 933.  
—, cellulose acetate luster modified by, 609.  
—, cellulose acetate stabilizer, 694.  
—, cellulose acetylated with, 1058.  
—, cellulose ether softener, 2218.  
—, crepe effect using, 2334.  
—, esterifying cellulose using, 299.  
—, formic acid concentrating using, 721.  
—, mfr. of, 715.  
—, sheen of cellulose acetate augmented by formaldehyde and, 679.  
—, wetting agent, 2210.  
—, zinc acetate made using, 772.  
Potassium acid sulfate, 2630.  
Potassium alcoholate, cellulose acetate saponified by, 850.  
—, ethyl alcohol made using, 863.  
Potassium amide, amines solvent for, 2012.  
Potassium antimonates, catalyst, 864.  
Potassium antimony tartrate, loading with, 2153.  
Potassium arsenate, catalyst, 864.  
Potassium benzoate, cellulose acetate stabilizer, 694.  
Potassium benzylate, 1749.  
—, cellulose ester etherified in presence of, 1434.  
Potassiumbichromate, cellulose acetate dyed using, 606.  
—, cellulose ether dyed using, 2303.  
—, cellulose formate solvent, 1799.  
—, cellulose treated with, 1140.  
—, ethylcellulose colored by, 300.  
—, flax purified by, 1179.

- Potassium bisulfate, catalyst in cellulose acetating, 384.  
—, catalyst in cellulose acetate mfr., 465.  
—, etherifying in presence of, 23.  
Potassium bitartrate, cellulose ether mordanted with, 144.  
—, mordant, 144.  
Potassium borate, sheen of cellulose acetate augmented by formaldehyde and, 679.  
—, silk degummed with, 748.  
Potassium bromide, cellulose acetate preserved by, 714.  
—, cellulose formate solvent, 463, 1799.  
Potassium butylaminonaphthalene sulfonate, cellulose ether emulsified by, 117.  
Potassium butylnaphthalene sulfonate, cellulose ether emulsified by, 117.  
Potassium butylsulfanilate, cellulose ether emulsified by, 117.  
Potassium butyrate, butyric acid extracted by, 801.  
Potassium carbonate, 2240.  
—, alkylating in presence of, 301.  
—, cellulose acetate dyed using, 745.  
—, cellulose acetate saponified by, 746, 810, 1069.  
—, cellulose etherified in presence of, 1433, 1449, 1451.  
—, reducing with, 208.  
—, safe ironing temperature raised by, 2165.  
Potassium caseinate, 2057.  
—, stencil sheet made using, 2495.  
Potassium catecholate, cellulose acetate dyed using, 606, 2243.  
Potassium cellobiosate, 1127.  
Potassium cellulose aceto-hydrogen-phthalate, mfr., 2641.  
Potassium cellulose aceto-hydrogen-succinate, mfr., 2641.  
Potassium cellulose phthalate, mfr., 2641.  
Potassium cellulose trisulfate, 1681.  
Potassium cetyl xanthate, 1076.  
Potassium chlorate, 2316.  
—, cellulose acetate dyed using, 606.  
—, cellulose ester dyed black using, 267.  
—, cellulose ether dyed using, 2304.  
Potassium chlorate, cellulose ether dyed black using, 267.  
—, cellulose oxidized by, 366.  
—, cigarette tip made using, 809.  
—, cotton dyed black using, 267.  
—, discharge, 2319.  
—, match head composition containing, 484.  
Potassium chloride, 1559.  
—, cellulose acetate dyed in presence of, 510.  
—, cellulose acetate luster modified by, 609.  
—, cellulose acetate preserved by, 714.  
—, cellulose acetate relustred by, 608.  
—, cellulose ethylated in presence of, 258, 1440, 1448, 1459.  
—, cellulose formate solvent, 463.  
—, desizing cellulose acetate fabric with, 678.  
—, dyeing in presence of, 2270.  
—, influence of on cellulose acetate saponification, 969.  
—, luster preserved by, 2173.  
Potassium *p*-chlorphenate, cellulose acetate dyed using, 606.  
Potassium chromate, cellulose acetate luster modified by, 609.  
—, luster preserved by, 2173.  
Potassium citrate, 1094, 1559.  
—, cellulose nitrate solvent, 1893.  
—, scroop imparted by, 2203.  
—, sheen of cellulose acetate augmented by formaldehyde and, 679.  
Potassium cresolate, cellulose acetate dyed using, 606, 2243.  
—, cellulose ether dyed using, 2266.  
—, silk degummed with, 748.  
Potassium cyanate, cellulose acetate swelling agent, 636.  
—, cellulose ether solvent, 141.  
Potassium cyanide, 1500, 1684, 1758.  
Potassium diamylnaphthylamine sulfonate, cellulose ether emulsified by, 117.  
Potassium dibutylsulfanilate, cellulose ether emulsified by, 117.  
Potassium diethylmetanilate, cellulose ether emulsified by, 117.  
Potassium dihydrogen phosphate, 135.  
Potassium ethylate, 1749.

- Potassium ethylate, cellulose ester etherified in presence of, 1434.  
Potassium ethylsulfate, amines solvent for, 2012.  
—, cellulose acetate dyed using, 596.  
—, cellulose etherified using, 1298.  
—, cellulose ethylated by, 21.  
Potassium ferricyanide, cellulose acetate dyed using, 778.  
—, cellulose ester lake from, 166.  
—, cellulose ether lake from, 166.  
—, lake produced by, 166.  
Potassium ferrocyanide, 2241.  
—, cellulose ester dyed using, 239.  
—, cellulose ether colored using, 2476.  
—, cellulose ether dyed using, 239, 2303, 2304.  
—, cellulose treated with, 1140.  
—, methylcellulose for dispersing, 2478.  
—, printing, reserve, color, using, 2326.  
Potassium formate, 275.  
—, acetic acid concentrating using, 721.  
—, cellulose acetate hydrated in presence of, 356.  
—, formic acid concentrating using, 721.  
—, sheen of cellulose acetate augmented by formaldehyde and, 679.  
Potassium glycollate, 187, 1724.  
Potassium guaiacolate, cellulose acetate dyed using, 606, 2243.  
Potassium hydracrylate, 187, 1724.  
Potassium hydroxide, cellulose acetate delustred using, 1013.  
—, cellulose acetate dyed using, 745.  
—, cellulose acetate hydrolyzed by, 775.  
—, cellulose acetate saponified by, 746, 810, 1069.  
—, cellulose etherified in presence of, 1433.  
—, cellulose mercerized by, 9.  
—, delustring with, 2192.  
—, ethyl alcohol made using, 863.  
—, silk degummed with, 748.  
Potassium hypochlorite, cellulose acetate dyed using, 606.  
Potassium iodide, cellulose acetate lacquer containing, 599.  
—, cellulose formate solvent, 1799.  
Potassium iodide, cellulose ether emulsifier, 2083.  
—, cellulose solvent, 1109.  
—, film, non-static, made using, 661.  
Potassium isocyanate, cellulose acetate swelling agent, 636.  
—, cellulose ether solvent, 141.  
Potassium isothiocyanate, cellulose ether solvent, 97, 141.  
—, film made using, 2528.  
Potassium lactate, 187, 1094, 1724.  
—, cellulose nitrate solvent, 1893.  
—, sheen of cellulose acetate augmented by formaldehyde and, 679.  
Potassium leucoanthraquinonate, cellulose acetate dyed using, 606.  
Potassium levulinate, cellulose nitrate solvent, 1893.  
Potassium mercuric iodide, cellulose acetate solubility in, 574.  
Potassium metaphosphate, acetic anhydride made using, 625.  
Potassium methoxide, acetic acid mfr. using, 633.  
Potassium methoxyacetate, 864.  
Potassium methylate, 1749.  
—, cellulose ester etherified in presence of, 1434.  
Potassium naphthenate, benzene solvent of, 107.  
—, silk sized using, 259.  
—, size containing, 2309.  
—, sizing with, 107, 2141.  
—, solubilizing agent, 2212.  
—, toluene solvent of, 107.  
—, turpentine oil solvent of, 107.  
—, xylene solvent of, 107.  
Potassium naphtholate, cellulose acetate dyed using, 606.  
—, cellulose ether dyed using, 2266.  
Potassium *a*-naphtholate, cellulose acetate dyeing using, 2243.  
Potassium *b*-naphtholate, cellulose acetate dyeing using, 2243.  
Potassium nitrate, cellulose acetate hydrolyzed in presence of, 927.  
—, cellulose acetate luster modified by, 609.  
—, influence of on cellulose acetate saponification, 969.  
Potassium oleate, cellulose acetate dyed in presence of, 991.  
—, cellulose acetate ironing temperature reduced by, 933.  
—, cellulose acetate stabilizer, 694.

- Potassium oleate, dyeing in presence of, 2270.  
—, filament cleaned by, 257.  
—, film cleaned by, 257.  
—, ribbon cleaned by, 257.  
—, silk sized using, 259.  
—, size containing, 2309.  
—, solubilizing agent, 2211.  
—, thread cleaned by, 257.  
—, wetting agent, 2207, 2208.
- Potassium oxalate, cellulose acetate luster modified by, 609.  
—, cellulose nitrate solvent, 1893.  
—, scroop produced by, 935, 2203.  
—, sheen of cellulose acetate augmented by formaldehyde and, 679.
- Potassium oxide, cellulose treated with, 1431.  
—, ethyl alcohol made using, 863.
- Potassium palmitate, cellulose acetate dyed in presence of, 499, 686.  
—, cellulose ether emulsifier, 2083.  
—, solubilizing agent, 2211.
- Potassium permanganate, 1139.  
—, cellulose acetate bleached by, 538.  
—, cellulose acetylated in presence of, 978.  
—, cellulose purified by, 1411.  
—, fabric printed on using, 2329.  
—, flax purified by, 1179.  
—, printing, color, using, 2327.
- Potassium phenate, cellulose acetate dyeing using, 2243.
- Potassium phenolate, 1871.  
—, cellulose acetate dyed using, 606.  
—, cellulose ether dyed using, 2266.  
—, safe ironing temperature raised by, 2165.  
—, silk degummed with, 748.
- Potassium phosphate, sheen of cellulose acetate augmented by formaldehyde and, 679.  
—, silk degummed with, 748.  
—, un-sizing cellulose acetate fabric with, 578.
- Potassium platinochloride, see Potassium chlorplatinate.*
- Potassium isopropyl-naphthalene-sulfonate, cellulose ether emulsified by, 117.
- Potassium quinaldine, amines solvent for, 2012.
- Potassium quinolate, cellulose acetate dyed using, 606, 2243.  
—, cellulose ether dyed using, 2266.
- Potassium resinate, benzene solvent of, 107.  
—, size containing, 2309.  
—, sizing with, 107, 2141.  
—, solubilizing agent, 2211.  
—, toluene solvent of, 107.  
—, turpentine oil solvent of, 107.  
—, xylene solvent of, 107.
- Potassium resorcinolate, cellulose acetate dyed using, 606, 2243.  
—, cellulose ether dyed using, 2266.
- Potassium ricinoleate, cellulose ether emulsifier, 2083.  
—, cellulose ether viscosity reduced by, 2093.  
—, wetting agent, 2207.
- Potassium salicylate, cellulose acetate stabilizer, 694.
- Potassium silicate, cellulose acetate saponified by, 746, 1069.  
—, safe ironing temperature raised by, 2165.  
—, sheen of cellulose acetate augmented by formaldehyde and, 679.  
—, silk degummed with, 748.
- Potassium stannate, 2163.  
—, benzylcellulose treated with, 1587.  
—, cellulose acetate dyed in presence of, 778.  
—, loading with, 2147.
- Potassium stearate, cellulose acetate ironing temperature reduced by, 933.  
—, dyeing cellulose acetate in presence of, 499.  
—, silk sized using, 259.  
—, size containing, 2309.  
—, solubilizing agent, 2211.  
—, wetting agent, 2207.
- Potassium sulfate, acetylating in presence of, 1057.  
—, cellulose acetate lacquer containing, 599.  
—, cellulose acetate luster modified by, 609.  
—, cellulose acetate relustred by, 608.  
—, etherifying cellulose in presence of, 1449.  
—, influence on of cellulose acetate saponification, 969.  
—, luster preserved by, 2173.

- Potassium sulfate, relustring with, 216.  
—, unsizing cellulose acetate fabric with, 578.  
Potassium sulfide, cellulose acetate saponified by, 1069.  
Potassium sulfite, safe ironing temperature raised by, 2165.  
Potassium sulfobenzene ricinoleate, dyes solubilized by, 776.  
—, solubilizing agent, 2211.  
Potassium sulfobenzenestearate, solubilizing agent, 2211.  
Potassium sulfocyanide, cellulose ether solvent, 108.  
*Potassium iso-sulfocyanide*, cellulose ether solvent, 108.  
Potassium sulfolaurate, softener, 2215.  
Potassium sulfomyristate, softener, 2215.  
Potassium sulfonaphthalene ricinoleate, dyes solubilized by, 776.  
—, solubilizing agent, 2211.  
Potassium sulfonaphthalene stearate, solubilizing agent, 2211.  
Potassium sulfonaphthenate, solubilizing agent, 2212.  
Potassium sulfo-oleate, dyeing cellulose acetate in presence of, 499.  
—, solubilizing dyes with, 499.  
Potassium sulfo-palmitate, cellulose ether emulsifier, 2083.  
—, softener, 2215.  
—, solubilizing dyes with, 499.  
Potassium sulfophenol ricinoleate, dyes solubilized by, 776.  
—, solubilizing agent, 2211.  
Potassium sulfophenol stearate, solubilizing agent, 2211.  
Potassium sulforicinate, cellulose ether emulsifier, 2083.  
Potassium sulforicinoleate, dispersing agent, 2227.  
—, dyeing cellulose acetate in presence of, 499.  
—, solubilizing dyes with, 499.  
Potassium sulfostearate, solubilizing dyes with, 499.  
Potassium tartrate, 1094.  
—, cellulose nitrate solvent, 1893.  
—, scroop produced by, 935, 2203.  
—, sheen of cellulose acetate augmented by formaldehyde and, 679.  
Potassium thiocyanate, 1688, 2348.  
Potassium thiocyanate, benzylcellulose mordanted by, 113, 1587.  
—, cellulose acetate crinkled by, 500.  
—, cellulose acetate delustred by, 500.  
—, cellulose acetate solvent, 567, 2075.  
—, cellulose acetate swelling agent, 501, 636.  
—, cellulose ester treated with, 275.  
—, cellulose ether delustred with, 185.  
—, cellulose ether softener, 2155.  
—, cellulose ether solvent, 97, 2075, 2082.  
—, cellulose ether treated with, 275.  
—, cellulose formate solvent, 640.  
—, cellulose mercerized by, 1191.  
—, delustring prevented by, 133.  
—, delustring with, 185.  
—, discharge (in printing) by, 265.  
—, ethylcellulose mordanted by, 113.  
—, film made using, 2528.  
—, formylnitrate solvent, 640.  
—, methylcellulose mordanted by, 113.  
—, printing cellulose ether using, 2323.  
—, relustring with, 2201.  
Potassium tolyloxide, cellulose acetate dyed in presence of, 607.  
Potassium triphenylmethyl, amines solvent for, 2012.  
Potassium xlenolate, cellulose acetate dyed using, 606, 2243.  
—, cellulose ether dyed using, 2266.  
Potassium zincate, 2318.  
—, acetic acid made using, 633.  
—, cellulose acetate dyed in presence of, 778.  
—, cellulose acetate hydrolyzed by, 749.  
—, cellulose ester weighted with, 213.  
—, cellulose ether weighted with, 213, 2638.  
—, delustring using, 2178.  
—, formaldehyde made using, 633.  
—, keten made using, 633, 779.  
—, loading with, 2147.  
—, methyl alcohol made using, 633.  
—, weighting with, 213.  
*Potato starch*, see *Starch*, *potato*.  
Poucis sheet, cellulose acetate lacquer for, 763.

- Poudre cotton, see Cellulose nitrate.*  
 Powder, flameless, cellulose acetate in mfr., 576.  
 —, molding, benzylcellulose as, 2348.  
 —, —, cellulose acetate, 768.  
 —, —, ethylcellulose as, 2348.  
 —, —, methylcellulose as, 2348.  
 —, smokeless, cellulose acetate for indicating decomposition of, 414.  
 —, soldering, cellulose acetate, mfr., 956.  
 —, wood, *see Wood powder.*  
 —, *see also Smokeless powder.*  
 Powder black, benzylcellulose in mfr., 2470.  
 —, ethylcellulose in mfr., 2470.  
 Precipitant, cellulose acetate, benzoline used for mfr., 1800.  
 —, —, gasoline used for mfr., 1800.  
 —, —, *n*-hexane for mfr., 1800.  
 —, —, ligroin used for mfr., 1800.  
 —, —, lythene used for mfr., 1800.  
 —, —, petroleum ether for mfr., 1800.  
 —, —, petroleum spirit used for mfr., 1800.  
*Precipitated pyroxylin, see Cellulose nitrated, precipitated.*  
 Precipitating, cellulose ether, prevention of, 1349.  
 —, ethylcellulose, prevention of, 1349.  
 —, methylcellulose, prevention of, 1349.  
*Prestone, see Ethylglycol.*  
 Primer, benzylcellulose for, 2480.  
 —, benzylcellulose for coating, 2471.  
 —, cellulose ether for coating, 2407.  
 —, china clay for, 2480.  
 —, coconut oil for, 2480.  
 —, ethylcellulose for, 2480.  
 —, methylcellulose for, 2480.  
 —, silex for, 2480.  
 Printing, cellulose acetate for, 592, 671.  
 —, cellulose esters for, 198, 671.  
 —, cellulose ether for, 198.  
 —, color, 2323, 2327.  
 —, discharge, 265, 2347.  
 —, —, cellulose ether for, 184.  
 —, discharge style, 2326.  
 —, intaglio, 2322, 2551.  
 —, methylcellulose in, 296.  
 —, planographic, surface for, 1092.  
 Printing, planographic surface, cellulose acetate for, 885.  
 —, print-on style, 2326.  
 —, reserve, 2326.  
 —, resist style, 2326.  
 —, textile, 2320.  
 —, —, cellulose glycollic acid for, 1724.  
 —, —, cellulose lactic acid for, 1724.  
 —, transfer, 2325.  
 —, warp, 2327.  
 —, woven effects in, cellulose acetate for, 431.  
 Printing block, cellulose ether, 147.  
 Printing paper, cellulose acetate in, 346.  
 Printing paste, 2321.  
 —, discharge, cellulose sulfate for, 1682.  
 —, resist, 2315.  
 Printing plate, cellulose acetate for mfr. of, 383, 404.  
 Prints, Bromoil, cellulose acetate in mfr. of, 1007.  
 —, finishing, cellulose acetate for, 2435.  
 —, photographic, cellulose acetate for coating, 849.  
 —, producing, 2348.  
 Procellose, 1112.  
*Promoters, see Catalysts.*  
 Proofed cloth, mfr., 872.  
 Proofing, phenol-condensate for, 648.  
*Propaesin, see Propyl p-aminobenzoate.*  
 Propaldehyde, 1867.  
*Propanal, see Propionic aldehyde.*  
 1.2-Propanedibenzenedisulfonic acid, cellulose ester coagulant for, 226.  
 —, cellulose ether coagulant for, 226.  
 1.3-Propanedibenzenedisulfonic acid, cellulose ester coagulant for, 226.  
 —, cellulose ether coagulant for, 226.  
 1.2-Propanedibenzenesulfonic acid, cellulose ester coagulant for, 226.  
 —, cellulose ether coagulant for, 226.  
 1.3-Propanedibenzenesulfonic acid, cellulose ester coagulant for, 226.  
 —, cellulose ether coagulant for, 226.

- Propanediol*, see *Propylene glycol*.  
 1.2-Propanediphenoldisulfonic acid, cellulose ester coagulant for, 226.  
 —, cellulose ether coagulant for, 226.  
 1.3-Propanediphenoldisulfonic acid, cellulose ester coagulant for, 226.  
 —, cellulose ether coagulant for, 226.  
 1.2-Propanediphenolsulfonic acid, cellulose ester coagulant for, 226.  
 —, cellulose ether coagulant for, 226.  
 1.3-Propanediphenolsulfonic acid, cellulose ester coagulant for, 226.  
 —, cellulose ether coagulant for, 226.  
*Propanenitrile*, see *Ethyl cyanide*.  
*Propanol*, see *Propyl alcohol*.  
*n-Propanol*, tanning using, 2469.  
*Propanolon*, see *Acetol*.  
*Propanoxime*, see *Acetoxime*.  
 Propeller, airplane, coating, cellulose for, 491.  
 —, —, vulcanized fiber for, 491.  
*Propenyl alcohol*, see *Glycerol*.  
*a-Propenyl dichlorhydrin*, see *a-Dichlorhydrin*.  
*as-a-Propenyl chlorhydrin*, see *Monochlorhydrin*.  
*Propine*, see *Allylene*.  
 Propionamide, 2006.  
 —, alkylamine made from, 500.  
 1-Propionamidoanthraquinone, cellulose acetate dyed using, 606.  
 Propione, 1877.  
 Propionic acid, 949, 1698, 1738, 1892, 1993.  
 —, amyl propionate as solvent for, 916, 1008.  
 —, cellulose pretreatment of with, 929.  
 —, cellulose acetate luster increased by, 785.  
 —, cellulose acetate printing using, 608.  
 —, cellulose acetate relusted by, 943.  
 —, cellulose ether gelatinant, 2096.  
 —, cellulose propionate made using, 949.  
 —, concentrating, 603, 1049.  
 —, delustring by, 2344.  
 —, dispersing agent for, 2214.  
 —, ethyl propionate from, 457.  
 —, ethyl propionate as solvent for, 916, 1008.  
 Propionic acid, extracting, 605.  
 —, pattern effects on cellulose acetate by, 774.  
 Propionic anhydride, 949, 1065, 1698, 1738.  
 —, cellulose, pretreatment of with, 929.  
 —, cellulose propionate made using, 949.  
 —, mfr., 770, 771, 849, 1049, 1065.  
 —, properties, 732.  
 Propionic esters, 1932.  
*Propionic ether*, see *Ethyl propionate*.  
*Propionic glycol*, see *Alanin*.  
 Propionin, 1925.  
*mono-Propionin*, preparation, 970.  
 —, properties, 970.  
*Propionitrile*, see *Ethyl cyanide*.  
 1.4-bisPropionmethylamidoanthraquinone, cellulose acetate dyed using, 606.  
 Propionylacetone-glycerol, cellulose ether plasticizer, 97.  
 Propionyl-aminoanthraquinone, cellulose ether dyed using, 2266.  
 1-Propionylamino-anthraquinone, 2318.  
 Propionylamylaniline, 2018.  
*mono-Propionylamylaniline*, cellulose acetate plastifier, 391.  
 Propionylanisidine, 2041.  
 —, cellulose ester plasticizer, 270.  
 —, cellulose ether plastifier, 174, 270.  
 —, inflammability of cellulose ether reduced by, 174.  
 Propionylbromaniline, 2014.  
 —, benzylcellulose treated with, 1563.  
 —, cellulose acetate plasticizer, 292.  
 —, cellulose propionate plasticizer, 292.  
 —, ethylcellulose plasticizer, 292.  
 Propionyl bromide, 72.  
 Propionyl butylaniline, 2018.  
*mono-Propionylbutylaniline*, cellulose acetate plastifier, 391.  
*Propionyl cellulose*, see *Cellulose propionate*.  
 Propionylchloraniline, 2014, 2017.  
 —, benzylcellulose treated with, 1563.  
 —, cellulose acetate plasticizer, 292.  
 —, cellulose ether plastifier, 174.  
 —, cellulose propionate plasticizer, 292.



- Propionylchloraniline, ethylcellulose plasticizer, 292.  
—, inflammability of cellulose ether reduced by, 174.  
Propionyl-*o*-chloraniline, cellulose ether plastifier, 174.  
—, inflammability of cellulose ether reduced by, 174.  
Propionyl chloride, 1111, 1698, 1739.  
—, cellulose esterified using, 278.  
—, cellulose pretreated with, 259.  
—, cellulose purified by, 1409.  
—, mfr., 454.  
Propionyl diacetin, 1925.  
*b*-Propionyl dichlorhydrin, properties, 732.  
Propionylethylaniline, 2018.  
*mono*-Propionylethylaniline, cellulose acetate plastifier, 391.  
*Propionylhydrocellulose*, see *Hydrocellulose propionate*.  
Propionylmethylaniline, 2018.  
*mono*-Propionylmethylaniline, cellulose acetate plastifier, 391.  
Propionyloxystearic acid esters, camphor substitute, 2052.  
Propionylphenetidin, 2024, 2041.  
—, cellulose ester plasticizer, 270.  
—, cellulose ether plastifier, 174, 270.  
—, inflammability of cellulose ether reduced by, 174.  
Propionylpropylaniline, 2018.  
*mono*-Propionylpropylaniline, cellulose acetate plastifier, 391.  
Propionylricinoleic acid esters, camphor substitute, 2052.  
*Propyl*, see *Dipropyl*; *Monopropyl*; *Tripropyl*.  
Propyl abietate, 1954.  
—, mfr., 975.  
*n*-Propyl abietate, mfr., 884.  
*iso*-Propyl abietate, mfr., 884.  
Propylacetanilid, 2023, 2026.  
Propyl acetate, 1652, 1916.  
—, carbon tetrachloride and, cellulose ether solvent, 99.  
—, cellulose ether solvent, 2079.  
—, ethyl alcohol and, cellulose ether solvent, 97.  
—, ethylcellulose solvent, 95.  
—, mfr., 527, 1917.  
—, methyl alcohol and, cellulose ether solvent, 97.  
—, propyl alcohol and, cellulose ether solvent, 97.  
*iso*-Propyl acetate, 1834, 1849, 1935.  
*iso*-Propyl acetate, benzaldehyde solvent with, 50.  
—, butyl tartrate solvent with, 50.  
—, cellulose acetate solvent, 813.  
—, cellulose ether solvent, 50.  
—, cyclohexanol solvent with, 50.  
—, cyclohexanone solvent with, 50.  
—, dibenzylamine solvent with, 51.  
—, dimethylaniline solvent with, 51.  
—, diphenylmethane solvent with, 51.  
—, ethylbenzene solvent with, 51.  
—, ethylenebromide solvent with, 50.  
—, ethylene chloride solvent with, 51.  
—, ethylene trichloride solvent with, 50.  
—, ethyl iodide solvent with, 50.  
—, mfr. of, 723.  
—, methyl acetate solvent with, 50.  
—, methyl acetone solvent with, 50.  
—, methylene chloride solvent with, 50.  
*n*-Propyl acetate, 1917, 1935.  
—, benzaldehyde solvent with, 50.  
—, butyl tartrate solvent with, 50.  
—, cellulose acetate solvent, 813.  
—, cellulose ether solvent, 50.  
—, cyclohexanol solvent with, 50.  
—, cyclohexanone solvent with, 50.  
—, dibenzylamine solvent with, 51.  
—, dimethylaniline solvent with, 51.  
—, diphenyl methane solvent with, 51.  
—, ethylbenzene solvent with, 51.  
—, ethylene bromide solvent with, 50.  
—, ethylene chloride solvent with, 51.  
—, ethylene trichloride solvent with, 50.  
—, ethyl iodide solvent with, 50.  
—, flash point, 2061.  
—, methyl acetate solvent with, 50.  
—, methyl acetone solvent with, 50.  
—, methylene chloride solvent with, 50.  
Propyl acetoacetate, 1932.  
—, camphor substitute, 2052.  
—, cellulose acetate with as plastic, 48.  
—, cellulose nitrate with as plastic, 48.  
—, ethylcellulose with as plastic, 48.  
—, mfr., 492.

- Propyl acetoacetate, methylcellulose with as plastic, 48.
- Propyl acetobutyrate, mfr., 492.
- Propyl acetopropionate, mfr., 492.
- Propyl acetyl-glycerate, 1953.
- Propyl acetyl-lactate, 1953.
- Ppropyl acetyl-tartrate, 1953.
- Propyl acrylate, 1953.
- iso*-Propyl acrylate, 1954.
- Propyl adipate, 1953.
- iso*-Propyl adipate, 1989.
- Propyl alcohol, 242, 1834, 1835, 1837, 1982.
- , acetylacetone as solvent with, 53.
- , acetyl-*p*-phenetidine as solvent with, 54.
- , amyl butyrate as solvent with, 54.
- , amyl carbonate as solvent with, 54.
- , amyl formate as solvent with, 54.
- , amyl propionate as solvent with, 53.
- , aniline acetate as solvent with, 54.
- , benzal bromide as solvent with, 54.
- , benzal chloride as solvent with, 54.
- , benzanilid as solvent with, 54.
- , benzyl bromide as solvent with, 54.
- , benzyl chloride as solvent with, 54.
- , benzotribromide as solvent with, 54.
- , benzotrichloride as solvent with, 54.
- , butyl acetate with, cellulose ether solvent, 97.
- , butyl butyrate as solvent with, 54.
- , butyl butyrate with, cellulose ether solvent, 97.
- , butyl carbonate as solvent with, 54.
- , butyl formate as solvent with, 54.
- , butyl propionate as solvent with, 53.
- , butyl propionate with, cellulose ether solvent, 97.
- , carvone as solvent with, 53.
- , catechol diacetate as solvent with, 54.
- Propyl alcohol, catechol monoacetate as solvent with, 54.
- , cellulose acetate solvent, 469, 472.
- , cellulose ester coagulated by, 133.
- , cellulose ether coagulated by, 133, 2097.
- , cellulose ether coagulation prevented by, 288.
- , cellulose ether containing, 145.
- , cellulose ether dyed level in presence of, 104.
- , cellulose ether dyeing using, 2237.
- , cellulose ether non-solvent, 186, 2089.
- , dibrombenzene as solvent with, 53.
- , dibromtoluene as solvent with, 54.
- , diethyl carbanilid as solvent with, 54.
- , *p*-dimethylaminobenzanilid as solvent with, 54.
- , *p*-dimethylaminophenyl acetate as solvent with, 54.
- , diphenylethylene diamine as solvent with, 54.
- , epichlorhydrin as solvent with, 53.
- , ethyl acetate with, cellulose ether solvent, 97.
- , ethyl butyrate with, cellulose ether solvent, 97.
- , ethyl carbonate as solvent with, 54.
- , ethylcellulose lacquer containing, 2411.
- , ethyl formate as solvent with, 54.
- , ethyl lactate as solvent with, 53.
- , ethyl propionate as solvent with, 53.
- , ethyl propionate with, cellulose ether solvent, 97.
- , ethyl succinate as solvent with, 53.
- , formic acid concentrated with, 760.
- , hexyl acetate as solvent with, 53.
- , hydroxyquinol diacetate as solvent with, 54.
- , hydroxyquinol monoacetate as solvent with, 54.

- Propyl alcohol, hydroxyquinone diacetate as solvent with, 54.  
 —, hydroxyquinone monoacetate as solvent, 54.  
 —, methylacetanilid as solvent with, 54.  
 —, methyl acetate with, cellulose ether solvent, 97, 99.  
 —, methyl butyrate with, cellulose ether solvent, 97.  
 —, methyl carbonate as solvent with, 54.  
 —, methylcellulose coagulant, 1460.  
 —, methylcellulose coagulation prevented by, 288.  
 —, methyl formate as solvent with, 54.  
 —, methyl propionate as solvent with, 53.  
 —, methyl propionate with, cellulose ether solvent, 97.  
 —, monobrombenzene as solvent with, 53.  
 —, monobromtoluene as solvent with, 54.  
 —, phenylurea as solvent with, 54.  
 —, plastic made with, 520.  
 —, polyhydroxybenzene acetates as solvent with, 54.  
 —, propyl acetate with, cellulose ether solvent, 97.  
 —, propyl butyrate as solvent with, 54.  
 —, propyl butyrate with, cellulose ether solvent, 97.  
 —, propyl carbonate as solvent with, 54.  
 —, propyl formate as solvent with, 54.  
 —, propyl propionate as solvent with, 53.  
 —, propyl propionate with, cellulose ether solvent, 97.  
 —, pyrogallol diacetate as solvent with, 54.  
 —, pyrogallol monoacetate as solvent with, 54.  
 —, resorcinol diacetate as solvent with, 54.  
 —, resorcinol monoacetate as solvent with, 54.  
 —, tetrachlorethane and, cellulose ether solvent, 97.  
 —, triphenyl phosphate and as solvent, 1901.  
 —, wetting out agent, 1235.  
*iso*-Propyl alcohol, 1835.
- iso*-Propyl alcohol, anhydride made from, 997.  
 —, benzaldehyde solvent with, 50.  
 —, benzylethyl ether solvent with, 51.  
 —, *n*-butylbenzyl ether solvent with, 52.  
 —, *n*-butyl-*o*-cresyl ether solvent with, 51.  
 —, *n*-butylphenyl ether solvent with, 52.  
 —, butyl tartrate solvent with, 50.  
 —, cellulose acetate solvent, 539.  
 —, cellulose ether solvent, 50.  
 —, chlorbenzene solvent with, 51.  
 —, cyclohexanol solvent with, 50.  
 —, cyclohexanone solvent with, 50.  
 —, diamyl ketone solvent with, 52.  
 —, dibenzylamine solvent with, 51.  
 —, dibutyl ketone solvent with, 52.  
 —, diethyl ketone solvent with, 52.  
 —, dimethylaniline solvent with, 51.  
 —, diphenyl ether solvent with, 51.  
 —, diphenyl methane solvent with, 51.  
 —, dipropyl ketone solvent with, 52.  
 —, diisopropyl ketone solvent with, 52.  
 —, ethylbenzene solvent with, 51.  
 —, ethylbenzylaniline solvent with, 51.  
 —, ethylene bromide solvent with, 50.  
 —, ethylene chloride solvent with, 51.  
 —, ethylene trichloride solvent with, 50.  
 —, ethyl iodide solvent with, 50.  
 —, flash point, 2061.  
 —, furfural solvent with, 51.  
 —, mfr., 539.  
 —, methyl acetate solvent with, 50.  
 —, methyl acetone solvent with, 50.  
 —, methyl amyl ketone solvent with, 52.  
 —, methyl benzoate solvent with, 51.  
 —, methyl butyl ketone solvent with, 52.  
 —, methyl-*p*-cresyl ether solvent with, 52.  
 —, methylene chloride solvent with, 50.  
 —, methylethyl ketone solvent with, 52.

- iso*-Propyl alcohol, methylpropyl ketone solvent with, 52.  
—, methyl salicylate solvent with, 51.  
—, monochlorbenzene solvent with, 51.  
—, pentachlorethane solvent with, 51.  
—, perchlorethylene solvent with, 51.  
—, phenol solvent with, 51.  
—, phenyl ethers solvent with, 51.  
—, phenylethylether solvent with, 51.  
—, phenylmethyl ether solvent with, 51.  
—, phenylpropyl alcohol solvent with, 51.  
—, resorcinol diacetate solvent with, 51.  
—, varnish containing, 2637.  
—, wetting agent, 2207.  
—, xylene solvent with, 51.  
*n*-Propyl alcohol, benzaldehyde solvent with, 50.  
—, benzylethylether solvent with, 51.  
—, *n*-butylbenzylether solvent with, 52.  
—, *n*-butyl-*o*-cresyl ether solvent with, 51.  
—, *n*-butylphenyl ether solvent with, 52.  
—, butyl tartrate solvent with, 50.  
—, cellulose ether solvent, 50.  
—, chlorbenzene solvent with, 51.  
—, cyclohexanol solvent with, 50.  
—, cyclohexanone solvent with, 50.  
—, diamyl ketone solvent with, 52.  
—, dibenzylamine solvent with, 51.  
—, dibutyl ketone solvent with, 52.  
—, diethyl ketone solvent with, 52.  
—, dimethylaniline solvent with, 51.  
—, diphenyl ether solvent with, 51.  
—, diphenyl methane solvent with, 51.  
—, dipropyl ketone solvent with, 52.  
—, di-*isopropyl* ketone solvent with, 52.  
—, ethylbenzene solvent with, 51.  
—, ethylbenzylaniline solvent with, 51.  
—, ethylene bromide solvent with, 50.  
—, ethylene chloride solvent with, 51.  
*n*-Propyl alcohol, ethylene trichloride solvent with, 50.  
—, ethyl iodide solvent with, 50.  
—, furfural solvent with, 51.  
—, methyl acetate solvent with, 50.  
—, methyl acetone solvent with, 50.  
—, methyl amyl ketone solvent with, 52.  
—, methyl benzoate solvent with, 51.  
—, methylbutyl ketone solvent with, 52.  
—, methyl-*o*-cresyl ether solvent with, 52.  
—, methylene chloride solvent with, 50.  
—, methylethyl ketone solvent with, 52.  
—, methylpropyl ketone solvent with, 52.  
—, methyl salicylate solvent with, 51.  
—, monochlorbenzene solvent with, 51.  
—, pentachlorethane solvent with, 51.  
—, perchlorethylene solvent with, 51.  
—, phenol solvent with, 51.  
—, phenyl ethers solvent with, 51.  
—, phenylethylether solvent with, 51.  
—, phenylmethyl ether solvent with, 51.  
—, phenylpropyl alcohol solvent with, 51.  
—, resorcinol diacetate solvent with, 51.  
—, wetting agent, 2207.  
—, xylene solvent with, 51.  
Propyl amido-oxalate, 1948.  
*iso*-Propylamine, 1888.  
Propyl aminobenzoate, lacquer containing, 2416.  
Propylaminocellulose, 1665.  
Propylamylcellulose, mfr., 1338.  
Propylamyl ketone, 1877.  
Propylbenzene, 1806, 1810.  
—, cellulose ether dyeing using, 2237.  
—, cellulose ether solvent, 2227.  
—, solubilizing agent, 2213, 2219.  
*iso*-Propylbenzene, 1806, 1809.  
Propyl benzoate, 1952, 1957, 1958.  
*iso*-Propyl benzoate, 1958.  
*n*-Propyl benzoate, 1958.  
Propyl benzoyl-glycerate, 1953.

- Propyl benzoyl-lactate, 1953.  
Propyl benzoyl-tartrate, 1953.  
Propylbenzylcellulose, acetone solubility of, 278, 1345.  
—, alcohol solubility of, 278, 1345.  
—, benzene solubility of, 278, 1345.  
—, benzene solubility of, 278, 1345.  
—, ether solubility of, 278, 1345.  
—, ethyl acetate solubility of, 278, 1345.  
—, stretching of, 1342.  
—, tearing strength of, 1342.  
—, water solubility of, 278, 1345.  
Propyl benzyl crotonate, 2625.  
Propyl benzyl phthalate, 1977.  
Propyl borate, 1909.  
Propyl bromide, solubility, 1277.  
*iso*-Propyl bromide, 1820.  
—, benzylcellulose treated with, 1563.  
—, cellulose ester solvent, 267.  
—, cellulose ether solvent, 267.  
—, properties, 1276.  
Propyl-brom-myristate, 1941.  
Propyl brom-palmitate, 1941.  
Propyl brom-stearate, 1941.  
Propyl butylanilid, 2026.  
Propylbutylcellulose, mfr., 1338.  
*iso*-Propylbutylene glycol, cellulose acetate plastifier, 620.  
*iso*-Propylbutylene glycol ether, cellulose acetate solvent, 665.  
Propylbutyl ketone, 1877.  
Propylbutyl phthalate, cellulose acetate solvent, 705.  
—, cellulose nitrate solvent, 705.  
Propylbutyl *o*-phthalate, 1973.  
Propyl butyrate, 1936, 1944, 1947.  
—, cellulose ether solvent, 54.  
—, ethyl alcohol and, cellulose ether solvent, 97.  
—, mfr., 1917.  
—, methyl alcohol and, cellulose ether solvent, 97.  
—, propyl alcohol and, cellulose ether solvent, 97.  
*iso*-Propyl butyrate, 1935.  
*n*-Propyl butyrate, 1935, 1936.  
Propyl carbamate, cellulose acetate inflammability reduced by, 942.  
—, plastic made containing, 2563.  
Propylcarbanilate, 1956, 1957.  
*n*-Propyl carbanilate, 1957.  
Propyl carbonate, 1906.  
—, cellulose ether solvent, 54.  
Propylcellulose, 1337.  
Propylcellulose, acetone solubility of, 278, 1345.  
—, acetone solvent for, 1879.  
—, alcohol solubility of, 278, 1345.  
—, benzene solubility of, 278, 1345.  
—, benzene solubility of, 278, 1345.  
—, bitumen as plasticizer for, 96.  
—, dyeing, 2275.  
—, ether solubility of, 278, 1345.  
—, ethyl acetate solubility of, 278, 1345.  
—, film made using, 2518.  
—, insulator containing, mfr., 2443.  
—, mfr., 100, 1453.  
—, solubility, 1337.  
—, stretching of, 1342.  
—, tearing strength of, 1342.  
—, uses of, 22, 1338.  
—, varnish from, 10.  
—, water solubility of, 278, 1345.  
—, *see also* *Dipropylcellulose*; *Monopropylcellulose*; *Tripropylcellulose*.  
*iso*-Propylcellulose, 1337.  
—, mfr. of, 100.  
*mono*-Propylcellulose, esterifying, 288.  
—, mfr., 288.  
*n*-Propylcellulose, 1337.  
—, mfr. of, 100.  
Propylcellulose glycollate, 2627.  
Propylcellulose lactate, 2627.  
Propylcellulose oleate, 1653.  
Propylcellulose tartronate, 2627.  
Propyl chloracetate, 1919.  
—, mfr., 580.  
Propyl chloride, 238, 1397, 2646.  
—, cellulose alkylated with, 1606.  
—, cellulose etherified with, 1337.  
—, mfr., 1269.  
—, solubility, 1277.  
*iso*-Propyl chloride, 1337.  
—, cellulose etherified by, 100, 1453.  
—, dextrin etherified by, 100, 1453.  
—, properties, 1276.  
—, starch etherified by, 100, 1453.  
—, wool cleaned with, 185.  
*n*-Propyl chloride, 1337.  
—, cellulose etherified by, 100, 1453.  
—, dextrin etherified by, 100, 1453.  
—, starch etherified by, 100, 1453.  
Propyl chlormyristate, 1941.  
Propyl chlorpalmate, 1941.  
Propyl chlorstearate, 1941.  
Propyl citrate, 1952.  
—, mfr., 580.  
*p*-Propyl-*m*-cresol, *see* *Thymol*.

- Propyl cresoxyacetate, 1926.  
 Propyl cresoxyamyl acetate, 1926.  
 Propyl cresoxybutyl acetate, 1926.  
 Propyl cresoxyethyl acetate, 1926.  
 Propyl cresoxymethyl acetate, 1926.  
 Propyl cresoxypropyl acetate, 1926.  
 Propyl *a*-crotonate, 1953.  
 1-*iso*-Propyl cyclohexan-3-one, camphor substitute, 2052.  
*iso*-Propyl dextrin, mfr. of, 100.  
*n*-Propyl dextrin, mfr. of, 100.  
 Propyl diethyleneglycol, 1847.  
*mono*-Propyl-diethyleneglycol, cellulose ether solvent, 172.  
 Propyl diethyleneglycol caprate, 1847.  
 Propyl diethyleneglycol caproate, 1848.  
*Propyl diethyleneglycol ether, see Diethyleneglycol propyl ether.*  
 Propyl diethyleneglycol laurate, 1848.  
 Propyl diethyleneglycollinoleate, 1848.  
 Propyl diethyleneglycol oleate, 1848.  
 Propyl diethyleneglycol palmitate, 1848.  
 Propyl diethyleneglycol ricinoleate, 1848.  
 Propyl diethyleneglycol stearate, 1848.  
 Propyl dimethylethylacetate, properties, 762.  
 Propyl dipropyleneglycol, 1847.  
 Propyl dipropyleneglycol caprate, 1847.  
 Propyl dipropyleneglycol caproate, 1848.  
 Propyl dipropyleneglycol laurate, 1848.  
 Propyl dipropyleneglycol linoleate, 1848.  
 Propyl dipropyleneglycol oleate, 1848.  
 Propyl dipropyleneglycol palmitate, 1848.  
 Propyl dipropyleneglycol ricinoleate, 1848.  
 Propyl dipropyleneglycol stearate, 1848.  
 Propylene, cellulose acetate solvent, 574.  
 —, chlorhydrins made using, 503.  
 —, mfr. of, 100.  
 —, sources, 517.  
 —, uses, 517.  
 Propylene chlorhydrin, 1840, 1844.  
 —, cellulose acetate plastic, 571.  
 —, cellulose acetate solvent, 526.  
 —, cellulose compound with, 60.  
 —, cellulose etherified by, 1382.  
 Propylene chloride, cellulose etherified by, 1382.  
 —, ethylcellulose solvent, 95.  
 —, mfr., 539.  
*Propylene dibromide, see Propylene bromide.*  
 Propylene dichloride, mfr., 454.  
 Propylene ether, anaesthetic properties of, 504.  
 Propylene glycol, 1838, 1839, 1853.  
 —, amyl ether of, 1850, 1854.  
 —, *iso*amyl ether of, 1854.  
 —, butyl ether of, 1850.  
 —, cellulose acetate lubricant, 1025.  
 —, cellulose etherified by, 1383.  
 —, cellulose ether softener, 303.  
 —, cellulose ether solvent, 2103.  
 —, diethyl ether of, 1847, 1848, 1853.  
 —, dimethyl ether of, 1847, 1848.  
 —, dipropyl ethers of, 1848.  
 —, ethyl ether of, 1848, 1850, 1854.  
 —, methyl ether of, 1848, 1850, 1854.  
 —, monomethyl ether of, 1853.  
 —, monophenyl ether of, 1853.  
 —, propyl ether of, 1848, 1854.  
 —, *iso*-propyl ether of, 1850, 1854.  
 —, wetting agent, 2207, 2210.  
*iso*-Propylene glycol, 1853.  
*monoiso*-Propylene glycol, cellulose acetate solvent, 968.  
 —, cellulose nitrate solvent, 968.  
 Propylene glycol abietate, 1955.  
 Propylene glycol dibenzoate, lacquer, unflammable, made using, 670.  
 Propylene glycol diethyl ether, 1855.  
 Propylene glycol diformate, 1911.  
 —, cellulose ester solvent, 198.  
 —, cellulose ether solvent, 198.  
 Propylene glycol ether, 1853.  
 Propylene glycol ethyl ether, 1849.  
 Propylene glycol ethyl ether acetate, cellulose acetate solvent, 801.  
 Propylene glycol methyl ether, 1849.  
 —, cellulose acetate solvent, 801.  
 Propylene glycol *mono-iso*-amyl ether, 1846.

- Propylene glycol mono-*iso*-butyl ether, 1846.  
Propylene glycol mono-*n*-butyl ether, 1846.  
Propylene glycol monoethyl ether, 1846.  
—, cellulose ether solvent, 2399.  
Propylene glycol monoformate, 1911.  
Propylene glycol mono-methyl ether, 1846.  
Propylene glycol monopropyl ether, 1987.  
Propylene glycol mono-*iso*-propyl ether, 1846, 1855.  
Propylene glycol mono-*n*-propyl ether, 1846.  
Propylene glycol oleate, stencil made using, 663.  
—, stencil sheet made using, 663, 801.  
Propylene glycol *iso*-propyl ether, 1849.  
Propylene glycol ricinoleate, stencil made using, 663.  
—, stencil sheet made using, 663, 801.  
Propylene oxide, 290, 1381, 1390, 1394, 1398, 1658, 1659, 1660, 1839, 1846, 1849.  
—, anhydride made from, 997.  
—, carbohydrates compound with, 64.  
—, cellulose acetate solvent, 981, 2564.  
—, cellulose combined with, 2641.  
—, cellulose compound with, 64.  
—, cellulose ether dyed using, 2267.  
—, dextrin compound with, 64.  
—, etherifying cellulose with, 1385.  
—, glycols mfr. from, 729.  
—, starch compound with, 64.  
—, sugar compound with, 64.  
—, tragacanth compound with, 64.  
*a*-Propylene oxide, 1873.  
*iso*-Propyl ester, 1936.  
Propyl ether, 1870.  
—, constants of, 517.  
—, mfr., 575.  
—, *see also* *Dipropyl ether*.  
*iso*-Propyl ether, 1870, 2629.  
—, acetic acid solvent, 923, 1027.  
—, cellulose acetate precipitant, 1061.  
—, constants of, 517.  
—, filament, hollow, spun, using, 2367, 2370.  
*iso*-Propyl ether, mfr., 575.  
*iso*-Propyl-*a*-ethoxypropionate, 1934.  
*n*-Propyl *a*-ethoxypropionate, 1934.  
Propylethyl acetoacetate, 1929.  
*Propyl ethylene*, *see n*-Amylene.  
*iso*-Propylethylene glycol, cellulose acetate plastifier, 620.  
*mono*-Propyl ethylene glycol, cellulose acetate solvent, 617.  
—, cellulose ether solvent, 172.  
*iso*-Propylethylene glycol ether, cellulose acetate solvent, 665.  
Propyl ethylenepropylenediglycol, 1847.  
Propyl ethylenepropylenediglycol caprate, 1847.  
Propyl ethylenepropylenediglycol caproate, 1848.  
Propyl ethylenepropylenediglycol laurate, 1848.  
Propyl ethylenepropylenediglycol linoleate, 1848.  
Propyl ethylenepropylenediglycol oleate, 1848.  
Propyl ethylenepropylenediglycol palmitate, 1848.  
Propyl ethylenepropylenediglycol ricinoleate, 1848.  
Propyl ethylenepropylenediglycol stearate, 1848.  
Propyl ethylhexylacetate, 630.  
*iso*-Propylethyl ketone, 1878.  
Propylethoxyphenyl sulfonate, 2034.  
Propyl ethyl sulfate, mfr., 1280.  
*iso*-Propylethyl sulfate, mfr., 1280, 1289.  
Propyl fluor-myristate, 1941.  
Propyl fluor-palmitate, 1941.  
Propyl fluor-stearate, 1941.  
Propyl formate, 1909, 1910.  
—, cellulose acetate solvent, 549.  
—, cellulose ether solvent, 54.  
—, formic acid solvent, 1009.  
*n*-Propyl formate, cellulose acetate solvent, 813.  
—, flash point, 2061.  
—, formic acid concentrated with, 760.  
—, mfr., 760.  
*Propyl formic acid*, *see Butyric acid*.  
Propyl furoate, 2000.  
—, constants, 1997.  
—, dilution ratios, 1997.  
—, solubility resins in, 1997.

- n*-Propyl furoylacetate, cellulose acetate softener, 733.  
Propyl *d*-glycerate, 1954.  
*iso*-Propyl-*d*-glycerate, 1954.  
*mono*-Propyl glycerol, cellulose ether solvent, 172.  
Propylglyceryl acetate, 1924.  
Propyl glycol, 1850, 1906.  
*iso*-Propylglycol, 1854.  
—, cellulose ester solvent, 57.  
—, cellulose ether solvent, 57.  
*n*-Propyl glycol, cellulose ester solvent, 57.  
—, cellulose ether solvent, 57.  
Propylglycol caprate, 1939.  
Propylglycol caproate, 1939.  
Propylglycol ether, 1853.  
*mono*-Propylglycol ether, properties of, 567.  
*monois*-Propylglycolether, mfr., 567.  
—, properties of, 567.  
Propyl glycolates, cellulose ester plasticizer, 169.  
—, cellulose ether plasticizer, 169.  
—, methylcellulose plasticizer, 169, 202.  
*n*-Propyl glycolate, 1941.  
Propylglycol laurate, 1939.  
Propylglycol linoleate, 1939.  
Propylglycol oleate, 1939.  
Propylglycol palmitate, 1939.  
Propylglycol ricinoleate, 1939.  
Propylglycol stearate, 1939.  
*Propyl hexahydrobenzoate, see Propyl naphthenate.*  
Propylhexyl ketone, 1877.  
Propyl hippurate, 1952.  
Propyl  $\alpha$ -hydroxy-*iso*-butyrate, cellulose acetate solvent, 2401.  
—, cellulose ether solvent, 2401.  
—, cellulose nitrate solvent, 2401.  
—, mfr. of, 2401.  
Propylhydroxyethylcellulose, 1608.  
—, mfr., 2646.  
Propyl *b*-hydroxypropionate, 1933.  
*iso*-Propylhydroxy-toluene, *see Carvacrol.*  
*iso*-Propylidene chloride, 1820.  
*iso*-Propylidene glycerol, 1858.  
*iso*-Propylidene glyceryl acetate, mfr., 876.  
Propylin, lacquer containing, 2397.  
Propyl iodide, 1255.  
—, solubility, 1277.  
*iso*-Propyl iodide, cellulose etherified using, 1298.  
*n*-Propyl iodide, cellulose etherified using, 1298.  
Propyl isothiocyanate, 2628.  
Propyl lactate, 1942, 1944, 1945, 1946, 1952, 1974.  
—, cellulose ether solvent, 93.  
—, mfr., 580.  
*iso*-Propyl lactate, 1946.  
Propyl levulinate, 1934.  
Propyl linoleate, 1938.  
Propyl malate, 1952.  
—, mfr., 580, 1949.  
Propyl maleate, 1952, 1989.  
—, mfr., 580, 1949.  
Propyl margarate, cellulose ether coagulant, 2097.  
Propyl mesitylenate, 1952.  
1-Propyl-3-methoxy-4-hydroxy benzene, 1175.  
Propyl-*b*-methyladipate, 1953.  
*iso*-Propyl methyladipate, 1989.  
Propylmethoxyphenyl sulfonate, 2034.  
Propyl methylpropylacetate, 1916.  
Propylmucate, 1952.  
Propylnaphthalene, cable, insulation of, made using, 1718.  
*b-iso*-Propylnaphthalenedisulfonate, surface tension in spinning lowered by, 708.  
*iso*-Propylnaphthalenedisulfonic acid, 2104.  
Propyl naphthalenesulfonate, ethylcellulose plasticizer, 151.  
*iso*-Propyl naphthalenesulfonate, cellulose acetate dyed using, 671.  
—, cellulose nitrate emulsifier, 267.  
—, emulsifying with, 267.  
—, ethylcellulose plasticizer, 151.  
Propyl-naphthalenesulfonic acid, emulsification using, 2451.  
*iso*-Propylnaphthalenesulfonic acid, 1061.  
Propyl naphthenate, 1966.  
Propyl naphthoxylacetate, 1928.  
Propyl naphthyl sulfonate, 2034.  
Propylnitronaphthylsulfonate, 2034.  
Propylnitrotolyl sulfonate, 2034.  
Propyl oleate, 1938.  
—, cellulose ester coagulated by, 133.  
—, cellulose ether coagulated by, 133, 170, 2086, 2097.  
Propyl oxalate, 1942, 1944, 1947, 1952.  
—, cellulose ether solvent, 93.



- Propyl oxalate, mfr., 580, 1917.  
*iso*-Propyl oxalate, 1948.  
*n*-Propyl oxalate, 1948.  
Propyl oxamate, 1948.  
Propyl oxide, acetic acid extracted with, 1045.  
Propyloxyacetanilid, 2023.  
—, cellulose ether plastifier, 174.  
—, inflammability of cellulose ether reduced by, 174.  
Propyloxyethylaminocellulose, 1398.  
Propyloxyethylcellulose, 1397.  
—, mfr. of, 239, 283, 289, 1608.  
—, solubility of, 1608.  
Propyl palmitate, 1938.  
—, cellulose ester coagulated by, 133.  
—, cellulose ether coagulated by, 133, 170, 2086, 2097.  
*n*-Propyl palmitate, properties, 732.  
*mono*-Propylpentaerythrite, cellulose ether solvent, 222.  
Propylpentyl ketone, 1877.  
Propyl phenoxylacetate, 1928.  
Propylphenylcellulose, mfr., 1612.  
Propylphenylmalonate, 1952.  
Propylphenyl sulfonate, 2034.  
Propyl phosphate, 1899, 1952.  
Propyl phthalate, 1952, 1967, 1969, 2041.  
*a*-Propyl-piperidine, *see* Coniine.  
Propyl propionate, 1932.  
—, cellulose ether solvent, 53.  
—, ethyl alcohol and, cellulose ether solvent, 97.  
—, mfr., 492, 1917.  
—, methyl alcohol and, cellulose ether solvent, 97.  
—, propyl alcohol and, cellulose ether solvent, 97.  
*iso*-Propyl propionate, 1935.  
*n*-Propyl propionate, 1935.  
Propylpropionylanilid, 2026.  
*iso*-Propyl-*a*-*n*-propoxypropionate, 1934.  
*n*-Propyl *a*-*n*-propoxypropionate, 1934.  
*n*-Propyl-*iso*-propylcellulose, 1337.  
*iso*-Propylpropylene glycol, cellulose acetate plastifier, 620.  
*mono*-Propylpropylene glycol, cellulose acetate solvent, 968.  
—, cellulose nitrate solvent, 968.  
*iso*-Propylpropylene glycol ether, cellulose acetate solvent, 665.  
Propylpropyloxyphenyl sulfonate, 2034.  
Propyl ricinoleate, 1938.  
Propyl salicylate, 1944, 1952.  
Propyl silicate, 1982, 2058.  
Propyl starch, mfr., 100.  
*iso*-Propyl starch, mfr. of, 100.  
*n*-Propyl starch, mfr. of, 100.  
Propyl stearate, 1938.  
—, cellulose ester coagulated by, 133.  
—, cellulose ether coagulated by, 133, 170, 2086, 2097.  
*n*-Propyl stearate, properties, 732.  
Propyl succinate, 1949, 1952, 1967.  
—, mfr., 580, 1949.  
Propyl succinylsuccinate, 1952.  
Propyl sulfate, etherifying with, 100.  
*iso*-Propyl sulfo-oleate, 2451.  
—, cellulose ether dispersed, 171.  
*iso*-Propyl sulfuricinoleate, 2451.  
—, cellulose ether dispersed by, 171.  
Propyl tartrate, 1952, 1989.  
—, mfr., 580, 1917.  
Propyl thioglycollates, cellulose ester plasticizer, 169.  
—, cellulose ether plasticizer, 169.  
—, methylcellulose plasticizer, 169.  
*n*-Propyl thioglycollate, 1941.  
Propyl toluate, 1952.  
*p*-Propyl-toluene, *see* Cymene.  
Propyl toluenesulfanilid, 2025.  
Propyl *p*-toluenesulfonate, 2042.  
Propyltolyl sulfonate, 2034.  
Propyl triethyleneglycol, 1847.  
Propyl triethyleneglycol caprate, 1847.  
Propyl triethyleneglycol caproate, 1848.  
Propyl triethyleneglycol laurate, 1848.  
Propyl triethyleneglycol linoleate, 1848.  
Propyl triethyleneglycol oleate, 1848.  
Propyl triethyleneglycol palmitate, 1848.  
Propyl triethyleneglycol ricinoleate, 1848.  
Propyl triethyleneglycol stearate, 1848.  
Propyl trimesate, 1952.  
Propyl urethane, *see* Propyl carbamate.  
Propyl valerate, mfr., 1917.  
Propyl valerianate, 1938.

- Propyl valerylalilid, 2026.  
 Propylxylylcellulose, mfr., 1612.  
 Propylxylyl sulfonate, 2034.  
 Protectoid, 2567.  
 Proteids, 2056.  
 Protein, airplane coated with, 2484.  
 —, cellulose acetate combined with, 992.  
 —, cellulose acetate spun in presence of, 699.  
 —, cellulose nitrate film coated with, 706.  
 —, horn, artificial, made using, 2607.  
 —, stencil sheet made using, 2495.  
*Protein amyloid*, see *Amyloid*.  
*Protocatechin methyl ether*, see *Guaiacol*.  
 Protocatechuic acid, 1175, 1623.  
 Prussian blue, benzylcellulose colored using, 2477.  
 —, cellulose ether colored using, 2476.  
 —, ethylcellulose colored using, 2477.  
 —, lacquer, cellulose ether, containing, 2404.  
*Prussic acid*, see *Hydrocyanic acid*.  
*Pseudo-compounds*, see *pseudo-Compounds*.  
 Pseudocumene, 1806.  
 —, lacquer containing, 2418.  
 —, see also *Cumene*, *pseudo-*.  
*Pseudocumol*, see *Cumene*.  
*Pseudo-mauveine*, see *pseudo-Mauveine*.  
 Pseudocumyldeoxyn, 7.  
 Ptyalin, 1473.  
 —, dental plate made using, 2538.  
 Puce, cellulose acetate, 751.  
 —, cellulose ether dyed, 181, 2286.  
 Pulegone, 1890, 1923, 1967, 1986, 2046.  
 Pulley, paper, cellulose acetate impregnated, 691.  
 —, —, cellulose nitrate impregnated, 691.  
 Pulp, *a*-cellulose, composition, 1173.  
 —, paper, castor oil treatment of, 970.  
 —, —, cellulose acetate combined with, 423.  
 —, —, cellulose acetate containing, 691.  
 —, —, cellulose acetate treatment of, 970.  
 —, —, gelatin treatment of, 970.  
 Pulp, paper, tricresyl phosphate treatment of, 970.  
 —, —, waterproofing, 2159.  
 —, sulfite, composition, 1173.  
 —, wood, acetating, 584.  
 —, see also *Wood pulp*.  
 Pulp board, record, phonograph, made using, 859.  
*Pulsatilla*, see *Anemonin*.  
 Pumice, 2193.  
 —, acetic anhydride made using, 769.  
 —, cellulose acetate delustred using, 854.  
 —, cellulose ester delustred by, 221.  
 —, cellulose ether delustred by, 221.  
 —, delustring with, 2194.  
 Purple, cellulose acetate dyed using, 540.  
 —, cellulose ether dyed, 2271.  
 Purple, reddish, cellulose acetate dyed using, 540.  
*Purreic acid*, see *Euxanthic acid*.  
 Putties, asbestos and cellulose ether, 153.  
 —, graphite and cellulose ether with, 153.  
 —, lithopone and cellulose ether with, 153.  
 —, mica and cellulose ether with, 153.  
 —, slag-wool and cellulose ether with, 153.  
 —, slate and cellulose ether with, 153.  
 —, talc and cellulose ether with, 153.  
 —, white lead and cellulose ether with, 153.  
 Pyramidol Brown BG, cellulose acetate dyed by, 512.  
 Pyramidol Brown 3G, 2232.  
 Pyranose, 1102.  
 Pyranosides, 1102.  
*Pyranton A*, see *Diacetone alcohol*.  
 Pyrazine, 1730.  
 —, see also *Antipyrin*.  
*Pyrazine hexahydride*, see *Piperazine*.  
*Pyrazoline*, see *Antipyrin*.  
 Pyrazoline dyes, 2348.  
 Pyrazolone, cellulose acetate dyed using, 499, 2246.  
 —, cellulose ether dyed using, 2255, 2285.  
 —, dye made using, 2641.  
 Pyrazolone dye, 2318.

*Pyrene, see Tetrachlormethane.*

Pyridine, 4, 71, 154, 190, 457, 533,  
1086, 1094, 1158, 1340, 1389, 1398,  
1495, 1590, 1633, 1647, 1652, 1661,  
1666, 1674, 1675, 1680, 1685, 1695,  
1703, 1707, 1709, 1711, 1712, 1715,  
1727, 1731, 1736, 1749, 1753, 1754,  
1757, 1761, 1764, 1768, 1769, 1840,  
2002, 2003, 2027, 2028, 2031, 2032,  
2033, 2205, 2641.  
—, acetating in presence of, 332.  
—, amines solvent for, 2012.  
—, amylose disulfate made using,  
582.  
—, benzylcellulose solvent, 230,  
1541.  
—, butylcellulose mfr. in presence  
of, 185.  
—, celluloid solvent, 890.  
—, cellulose, action on of, 848.  
—, —, pretreatment of with, 655.  
—, —, treatment of with, 255, 278.  
—, cellulose acetate made using,  
667.  
—, cellulose acetate delustred by,  
616.  
—, cellulose acetate dyed using,  
530, 531, 548, 672, 2235.  
—, cellulose acetate filaments made  
using, 531.  
—, cellulose acetate mfr. in pres-  
ence, 877.  
—, cellulose acetate solvent, 336,  
375, 642, 890, 966, 1785, 1819.  
—, cellulose acetate stabilizer, 643.  
—, cellulose acetate stretch spin-  
ning in bath of, 785.  
—, cellulose acetate swelling agent,  
660, 800, 810, 1011, 1043.  
—, cellulose acetylated in presence  
of, 825.  
—, cellulose benzoylated using,  
1021.  
—, cellulose compounds of, 89.  
—, cellulose diformate solvent,  
1017.  
—, cellulose dilaurate solvent for,  
538.  
—, cellulose dipalmitate made  
using, 579.  
—, cellulose dipalmitate solvent  
for, 538.  
—, cellulose distearate solvent for,  
538.  
—, cellulose ester dyed with, 197.  
—, cellulose ester-ether mfr. using,  
190.

Pyridine, cellulose ester etherified  
in presence of, 1434.  
—, cellulose esterified using, 278,  
987.  
—, cellulose esterified in presence  
of, 709.  
—, cellulose ester polymerized by,  
248.  
—, cellulose ether dyed with, 197,  
2237.  
—, cellulose ether dyeing assistant,  
2222.  
—, cellulose ether fixative, 104.  
—, cellulose etherified in presence  
of, 13, 14.  
—, cellulose ether lacquer contain-  
ing, 155.  
—, cellulose ether mfr. using, 190.  
—, cellulose ether polymerized by,  
248.  
—, cellulose ether softener, 2133,  
2150, 2155, 2349.  
—, cellulose ether solvent, 92, 230,  
283, 1841, 2079, 2545.  
—, cellulose ether swelling agent,  
253, 287.  
—, cellulose ether viscosity reduced  
by, 1363.  
—, cellulose formate solvent, 729.  
—, cellulose laurate precipitant,  
790.  
—, cellulose purified by, 1410, 1411.  
—, cellulose treated with, 2314.  
—, cellulose trilaurate solvent for,  
538.  
—, cellulose tripalmitate solvent  
for, 538.  
—, cellulose tristearate solvent for,  
538.  
—, cork esterified using, 668.  
—, cotton immunized by, 907.  
—, damask effect produced by,  
2340.  
—, dichlorethylene stabilized by,  
1066.  
—, dimethylhydrocellulose solvent,  
76.  
—, ethylcellulose solvent, 17, 18,  
19, 21, 230, 1332, 1335.  
—, ethylcellulose xanthanilide sol-  
vent, 1644.  
—, filter made using, 2460.  
—, filter, cellulose ether, made  
using, 2460.  
—, film made using, 2513.  
—, hydrolyzing cellulose acetate  
with, 421.

- Pyridine, lacquer containing, 2395, 2418.  
—, linen immunized by, 907.  
—, methylcellulose solubility in, 1307.  
—, methylin solvent, 276.  
—, modifying dyeing properties of fibers by, 831.  
—, mordant for cellulose acetate, 809.  
—, mordant in cellulose ether dyeing, 104.  
—, oxalyl chloride made using, 646.  
—, rayon immunized by, 907.  
—, rubber solvent, 2545.  
—, stabilizer in cellulose acetate lacquer, 548.  
—, starch ether solvent, 1483.  
—, strengthening cellulose acetate filament by, 1029.  
—, trichlorethylene stabilized by, 1066.  
—, trimethylcellulose solvent, 1315, 1319.  
—, triphenylmethylcellulose solvent, 1634.  
—, wetting out agents, 1235.  
—, wood, acetylating, in presence of, 836.  
*Pyridine carbonic acid (2)*, see *Picolinic acid (2)*.  
*a-Pyridine-carbonic acid*, see *Picolinic acid*.  
*m-Pyridine-carbonic acid*, see *Nicotinic acid*.  
Pyridine chloride, acetic anhydride made using, 770, 865.  
—, cellulose laurate precipitant, 790.  
*Pyridine dicarbonic acid (2.3)*, see *Quinolinic acid*.  
Pyridine hydrochloride, 1710.  
Pyridine-methanol, filter made using, 2461.  
Pyridine perchlorate, bleaching cellulose by, 1411.  
—, catalyst in cellulose acetate mfr., 688.  
—, cellulose purified by, 1411.  
Pyridine phosphate, acetic anhydride made using, 770, 865.  
Pyridine sulfate, 2252.  
—, acetic anhydride made using, 770, 865.  
—, catalyst in cellulose acetation, 979.  
Pyridine sulfate, cellulose acetate hydrolyzed by, 369.  
Pyridinesulfonic acid, 1086.  
Pyridine sulfuric acid, cellulose acetylated in presence of, 842.  
Pyridine sulfuro-anhydride, catalyst in cellulose acetate mfr., 919.  
*Pyridinetricarbonic acid*, see *Pyridinetricarboxylic acid*.  
*Pyridinetricarbonic acid (2.4.5)*, see *Berberonic acid*.  
*N-Pyridinium sulfonic acid*, catalyst in cellulose acetate mfr., 919.  
Pyridone, cellulose ether dyed using, 2228.  
*a-Pyridone*, see *Hydroxy-pyridine (2)*.  
*b-Pyridone*, see *Hydroxy-pyridine (3)*.  
*a-Pyridyl-b-tetrahydro-N-methylpyrrole*, see *Nicotine*.  
Pyrites, catalyst in ethyl chloride mfr., 1269.  
*Pyro*, see *Pyrogallol*.  
Pyroboric acid, 1044.  
Pyrocatechin, cellulose acetate plasticizer, 398.  
—, see also *Catechol*; *Pyrocatechol*.  
Pyrocatechin dimethyl ether, cellulose acetate plasticizer, 398.  
Pyrocatechol, 1926.  
—, cellulose acetate plastifier, 452.  
—, cellulose ester film coated using, 248.  
—, cellulose ether film coated using, 248.  
—, flash point, 2061.  
—, see also *Catechol*.  
Pyrocatechol diacetate, 1927.  
—, cellulose acetate plasticizer, 375.  
Pyrocatecholdiethylether, 1872, 1873.  
Pyrocatecholethyl ether, 1871.  
Pyrocatecholmethyl ether, 1871, 1873.  
Pyrocatechol monoacetate, 1927.  
*Pyrocatechol monomethyl ester*, see *Guaiacol*.  
*Pyrodin*, see *Acetylphenylhydrazine*.  
*Pyrogallallic acid*, see *Pyrogallol*.  
Pyrogallol, 1076, 1860, 2446, 2447.  
—, acetic acid with, 1927.  
—, aldehyde condensate of, 456.  
—, amines solvent for, 2012.  
—, bromine derivative of, fire-retardant, 1374.

- Pyrogallol, bromo, cellulose ether inflammability reduced by, 182.  
 —, cellulose acetate combined with, 533.  
 —, cellulose acetate plastifier, 340.  
 —, cellulose ester film coated using, 248.  
 —, cellulose ether film coated using 248.  
 —, film made using, 2510.  
*Pyrogallol carboxylic acid, see Trihydroxybenzoic acid.*  
 Pyrogallol diacetate, cellulose ether solvent, 54.  
 Pyrogallol monoacetate, cellulose ether solvent, 54.  
 Pyrogallol triacetate, 1927.  
 Pyrogen blue 3 GL, cellulose acetate dyed using, 718.  
 Pyrogen cutch 2 GR, cellulose acetate dyed by, 513.  
 Pyrogen deep black A, cellulose acetate dyed by, 513.  
 Pyrogen green 3G, cellulose acetate dyed by, 513.  
 Pyrogenindigo, 2242.  
 —, cellulose acetate dyed with, 511, 622.  
 Pyroligneous acid, esters from, mfr., 461.  
 —, methyl alcohol from, 461.  
 —, sodium acetate from, 461.  
 —, *see also Acetic acid.*  
*Pyroligneous spirit, see Methyl alcohol.*  
*Pyroligneous spirits of alcohol, see Methyl alcohol.*  
 Pyrolignite of iron, loading with, 2152.  
*Pyrolignite of lime, see Calcium acetate.*  
 Pyromucic acid, 1729, 1730, 2000.  
 Pyromucic aldehyde, 1996.  
 —, *see also Furfural.*  
 Pyromucic esters, 2000.  
 Pyronine G, wetting agent, 2208.  
 Pyrophosphoric acid, acetic anhydride mfr. using, 632.  
 —, catalyst in cellulose acetation, 339, 373.  
 —, cellulose acetate stabilizer, 967.  
 —, saponified by, 604.  
 —, *see also Phosphoric acid.*  
 Pyrroacemic acetate, 1832.  
*Pyrroacemic acid, see Pyruvic acid.*  
*Pyrroacemic alcohol, see Acetol.*  
 Pyrroacemic laurate, 1832.  
 Pyrroacemic levulinate, 1832.  
*Pyrosulfuric acid, see Oleum.*  
 Pyrosulfuryl chloride, catalyst in cellulose acetating, 392.  
 —, cellulose compounds of, mfr., 504.  
*Pyrotartaric acid, see Uvic acid.*  
 Pyroxanthine, 1883.  
 —, wood oil containing, 296.  
*Pyroxyly, see Cellulose nitrate.*  
*Pyroxylic, see Methyl alcohol.*  
 Pyroxylin, glass, laminated, made using, 2595.  
 —, record, phonograph, containing, 2600.  
 —, waterproofing with, 2157.  
 —, *see also Cellulose nitrate; Gun-cotton.*  
*Pyroxylin plastics, see Celluloid; Plastics, cellulose nitrate.*  
 Pyrrol, 1730.  
 —, amines solvent for, 2012.  
 —, celluloid solvent, 890.  
 —, cellulose acetate solvent, 890, 1785.  
 Pyrrolidine, 1730.  
 Pyruvic acid, 1738.  
 —, celluloid solvent, 890.  
 —, cellulose acetate solvent, 890, 1785.  
 Quartz glass, ultra-violet rays impervious to, cellulose ether for, 178.  
 Quercite, ethylating, 109.  
 Quercetin, methyl sulfate in mfr. of, 1264.  
*Quicklime, see Calcium oxide.*  
 Quinaldine, 2027.  
 —, acetic acid solvent, 668.  
 —, amines solvent for, 2012.  
 —, lacquer containing, 1081.  
*Quinaldine, see also Methylquinoline (2).*  
 Quinaldine picrate, amines solvent of, 2012.  
*Quinaseptol, see Diaphthol.*  
 Quince oil, stencil sheet made using, 664, 2488.  
 Quinine, amines solvent, 2012.  
 Quinine sulfate, 2450.  
 —, sunburn, protecting against by, 2541.  
 Quinol, cellulose ether dyed using, 265.  
*Quinol, see also Hydroquinone.*

- Quinoline, 154, 533, 1495, 1647, 1685, 1706, 1709, 1730, 1749, 1753, 1764, 1769, 1840, 2027, 2031, 2032, 2033.
- , acetating in presence of, 332.
  - , acetic acid extracted by, 629, 835, 1016.
  - , acetic acid solvent, 667, 668, 977.
  - , amines solvent for, 2012.
  - , cellulose, pretreatment of with, 655.
  - , cellulose acetate mfr. in presence of, 877.
  - , cellulose acetate solvent, 966, 1819.
  - , cellulose compounds of, 89.
  - , cellulose ester etherified in presence of, 1434.
  - , cellulose dipalmitate made using, 579.
  - , cellulose ester polymerized by, 248.
  - , cellulose ether lacquer containing, 155.
  - , cellulose ether polymerized by, 248.
  - , cellulose ether viscosity reduced by, 1363.
  - , cellulose ether solvent, 2545.
  - , cellulose treated with, 2314.
  - , cotton immunized by, 907.
  - , dichlorethylene stabilized by, 1066.
  - , ethylcellulose solvent, 19.
  - , ethylcellulose xanthanilide solvent, 1644.
  - , hydrolyzing cellulose acetate with, 421.
  - , lacquer containing, 2418.
  - , linen immunized by, 907.
  - , rayon immunized by, 907.
  - , rubber solvent, 2545.
  - , stabilizer in cellulose acetate lacquer, 548.
  - , starch ether solvent, 1483.
  - , strengthening cellulose acetate filaments by, 1029.
  - , trichlorethylene stabilizer by, 1066.
- iso*-Quinoline, 1730.
- , celluloid solvent, 890.
  - , cellulose acetate solvent, 890, 1785.
- Quinoline chloride, 2033.
- , acetic anhydride made using, 770, 865.
- Quinoline methiodide, amines solvent for, 2012.
- Quinoline perchlorate, bleaching cellulose by, 1411.
- , catalyst in cellulose acetate mfr., 688.
  - , cellulose purified by, 1411.
- Quinoline phosphate, acetic anhydride made using, 770, 865.
- Quinoline salicylate, 2033.
- Quinoline sulfate, 2033.
- , acetic anhydride made using, 770, 865.
  - , cellulose acetate hydrolyzed by, 369.
- Quinoline-8-sulfochloride, 1686, 2629.
- Quinoline thiocyanate, 2033.
- Quinoline Yellow, amines solvent for, 2012.
- Quinolinic acid, 1730.
- Quinone, amines solvent for, 2012.
- , cellulose ether dyed using, 2285.
  - , dichlorethylene stabilized by, 1066.
  - , trichlorethylene stabilized by, 1066.
- Quinone acetate, 330.
- Quinone monoxime, *see p*-Nitrosophenol.
- Quinophthalone, cellulose acetate dyed using, 717.
- Racemic acid, 1741.
- , film made using, 2506.
- Racket strings, cotton impregnated with cellulose acetate for, 638.
- , hemp impregnated with cellulose acetate for, 638.
  - , jute impregnated with cellulose acetate for, 638.
  - , ramie impregnated with cellulose acetate for, 638.
  - , silk impregnated with cellulose acetate for, 638.
- Radiance Red, cellulose acetate dyed, 1034.
- Radio panel, cellulose acetate in mfr. of, 812.
- , paper, cellulose acetate impregnated, 691.
  - , —, cellulose nitrate impregnated, 691.
- Radium bromide, 277.

- Radium bromide, phosphorescence produced by, 1372.  
 Rags, cellulose acetate in, 903.  
 —, *nitrogenized see Cellulose nitrate*.  
 —, rayon in, 903.  
 Raincoat, cellulose ester and rubber for, 216.  
 —, cellulose ether and rubber for, 216.  
 —, mfr. of, cellulose ether for, 2377.  
 —, rubber for, 216.  
*Ramalina fraxinea*, 1161.  
 Ramie, acetating, 660, 875, 965, 1051.  
 —, etherifying, 1415.  
 —, gut, substitute, made of cellulose acetate impregnated, 638.  
 —, heat of combustion, 974, 1107, 1108.  
 —, heat of formation, 974.  
 —, instrument strings made of cellulose acetate impregnated, 638.  
 —, racket strings made of cellulose acetate impregnated, 638.  
 —, X-ray analysis of, 1179.  
 Ramie acetate, mfr., 965.  
*Ramie cellulose, see Cellulose, ramie*.  
 Ramie half acetate, heat of combustion, 974.  
 —, heat of formation, 974.  
 Ramie triacetate, heat of combustion, 974.  
 —, heat of formation, 974.  
 Ramie tricaproate, heat of combustion, 974.  
 —, heat of formation, 974.  
 Ramie trilaurate, heat of combustion, 974.  
 —, heat of formation, 974.  
 Ramie tripalmitate, 1001.  
 Rape oil, 1938.  
 —, cellulose acetate plasticizer, 462.  
 —, emulsion containing, 2466.  
 —, sheet, flexible, made using, 468.  
 Rapeseed oil, cellulose acetate lubricated by, 722.  
 —, cellulose ether softener, 2218.  
 —, fabric, waterproofing, with, 713.  
*Rapinic acid, see Rapic acid*.  
 Rayon, 593.  
 —, activin as bleach for, 645.  
 —, analysis, 989, 1002.  
 —, —, ultra-violet ray for, 809.  
 —, appearance, 712.  
 —, bleaching, 645.  
 Rayon, cellulose acetate covered, 933.  
 —, delustring, 565.  
 —, differentiation, 989.  
 —, dressing, methylcellulose for, 738.  
 —, dyeing, 712, 894.  
 —, feel, 712.  
 —, finishing, 894.  
 —, identifying, 593.  
 —, immunizing, 907.  
 —, isolation, 989.  
 —, mfr., 933.  
 —, methylation, 1307.  
 —, non-fraying, mfr., 838.  
 —, scroop, producing, 593.  
 —, shrinkage, reducing, 2373.  
 —, sizing, methylcellulose for, 738.  
 —, ultra-violet radiation through, 657.  
 —, voluminous, mfr., 1070, 1075.  
 —, water-resistance of, 712.  
 —, stress-strain relation, 799.  
 Receptacles, acid-proof, cellulose acetate for mfr. of, 2645.  
 Record, phonograph, acetone in mfr., 1881.  
 —, —, cellulose acetate, 914, 1098.  
 —, —, cellulose acetate coated, 343.  
 —, —, cellulose nitrate coated, 343, 796.  
 —, —, cotton flock in, 436.  
 —, —, disc mfr., 796.  
 —, —, mfr., 536, 859, 990, 2599.  
 —, —, acaroid in, 515.  
 —, —, asphalt for, 162.  
 —, —, bitumen for, 162.  
 —, —, cardboard in, 705.  
 —, —, cellulose acetate for, 364, 403, 436, 455, 492, 515, 584, 597, 677, 705, 796, 822, 824, 954.  
 —, —, cellulose ester for, 162.  
 —, —, cellulose ether for, 162, 185.  
 —, —, cyclohexanone in, 515.  
 —, —, diethyldiphenylurea in, 515.  
 —, —, ethyl lactate in, 162.  
 —, —, form-*o*-toluide in, 515.  
 —, —, paper in, 705.  
 —, —, paper, laminated, in, 705.  
 —, —, phenyl oxamate in, 515.  
 —, —, phenylurethane in, 515.  
 —, —, stearic acid, chlorinated, in, 364.  
 —, —, sulfanilid for, 162.  
 —, —, triacetin for, 162.

- Record, phonograph, mfr., tri-phenyl phosphate for, 162.  
—, —, phenol-condensate for, 436.  
—, —, wood flour in, 436.  
—, sound, mfr., 390.  
Red, barium lake, cellulose acetate dyed, 1010.  
—, —, cellulose ether dyed, 2249.  
—, blood, cellulose acetate dyed, 673.  
—, blue, cellulose acetate dyed, 674, 937.  
—, bluish, cellulose acetate dyed, 493, 503, 592, 610, 612, 671, 693, 723, 883, 1010, 1085.  
—, —, cellulose ester dyed, 217, 245.  
—, —, cellulose ether dyed, 217, 245, 2249, 2250, 2254, 2256, 2263, 2264, 2266, 2267, 2269, 2271, 2272, 2273, 2276, 2285, 2286, 2289, 2297.  
—, brick, cellulose ether dyed, 1744, 2261.  
—, brilliant, cellulose ether dyed, 2252.  
—, brown, cellulose acetate dyed, 574, 1087.  
—, —, cellulose ester dyed, 157.  
—, —, cellulose ether dyed, 157, 2264, 2272, 2276, 2285.  
—, brownish, cellulose acetate dyed, 494, 511, 592.  
—, cellulose acetate dyed, 265, 493, 531, 546, 601, 606, 611, 612, 672, 673, 674, 718, 722, 750, 798, 808, 845, 846, 879, 925, 1009, 1010.  
—, cellulose ester dyed, 138, 196, 207, 241.  
—, cellulose ether dyed, 111, 112, 113, 138, 196, 207, 241, 265, 275, 1774, 2238, 2249, 2251, 2253, 2254, 2256, 2257, 2258, 2261, 2264, 2265, 2266, 2267, 2268, 2271, 2272, 2275, 2277, 2279, 2281, 2284, 2286, 2296, 2312, 2347, 2633, 2635.  
—, ethylcellulose dyed, 265.  
—, fluorescent, cellulose ether dyed, 2258.  
—, nitrobenzylcellulose dyed, 1597.  
—, orange, cellulose acetate dyed, 597, 674, 1010, 1086.  
—, —, cellulose ester dyed, 220.  
—, —, cellulose ether dyed, 67, 220, 2251, 2265, 2266, 2269, 2277, 2286.  
—, seal, cellulose acetate dyed, 673, 2294.  
Red, violet, cellulose acetate dyed, 503, 551, 597.  
—, —, cellulose ester dyed, 125.  
—, —, cellulose ether dyed, 125, 2229, 2253.  
—, —, nitrobenzylcellulose dyed, 1597.  
—, yellowish, 675.  
—, —, cellulose acetate dyed, 502, 674, 1744.  
—, —, cellulose ether dyed, 2261, 2275.  
Red alizarin lake, cellulose acetate colored by, 484.  
*Red gum*, see *Acaroid*.  
Red thyme oil, 2045.  
Reeds, young, acetylating, 1026.  
—, —, purifying, 1026.  
*Refined fusel oil*, see *Fusel oil*, *refined*.  
Refrigerator, insulating, cellulose acetate for, 2439.  
*Reinforced glass*, see *Glass*, *laminated*.  
Reliance, 2567.  
Relustoring, 216, 218, 869, 937, 991, 1015, 2167, 2198.  
*Renol*, see *Alcohol*; *Carbon tetrachloride*.  
Reserve cellulose, 1162.  
—, see also *Lichenin*.  
Reserves, polychromatic, printing with, 2326.  
Resin, 1972, 2053.  
—, acetated, 835.  
—, —, cellulose acetate combined with, 835.  
—, artificial, acetone in mfr., 1881.  
—, —, acetone-furfural, 178.  
—, —, allyl alcohol in mfr., 1079.  
—, —, aniline-furfural, 178.  
—, —, azelaic acid in mfr., 1079.  
—, —, benzylcellulose in, 173.  
—, —, cellulose acetate combined with, 844.  
—, —, cellulose ether combined with, 132, 151.  
—, —, cellulose ether and, as plastic, 254.  
—, —, cellulose nitrate combined with, 132.  
—, —, cresol in mfr., 1079.  
—, —, ethylcellulose in, 173.  
—, —, fabric coated with, 741.  
—, —, film made using, 2506.  
—, —, furfural, 178.  
—, —, gauze coated with, 741.



- Resin, artificial, glycerol in mfr. of, 1079.  
—, —, insulating with, 825, 923.  
—, —, lacquer containing, 1573.  
—, —, mfr., 795.  
—, —, methylcellulose in, 173.  
—, —, netting coated with, 741.  
—, —, plastic of cellulose acetate and, 814.  
—, —, printing on, 2329.  
—, —, trichlorethylene solvent for, 1825.  
—, —, wetting agent, 2208.  
—, benzoyl-benzoic, 966.  
—, determination, 2648.  
—, film of, 289.  
—, formaldehyde, 1078.  
—, glass, laminated made using, 789.  
—, ketone-phenol-aldehyde, 136.  
—, metal coated using, 790.  
—, methylcellulose combined with, 289.  
—, plastic containing, 879, 983.  
—, transfer, cellulose ether, containing, 2547, 2549.  
—, transfer made using, 2549.  
—, toluenesulfamide, 1078.  
—, urea-aldehyde, 845, 846.  
—, wood coated using, 790.  
Resin acid, coating containing, 201.  
—, lacquer containing, 2419, 2425.  
Resinate, metallic, cellulose acetate plastic containing, 87.  
—, —, cellulose formate plastic containing, 87.  
—, —, cellulose nitrate plastic containing, 87.  
*Resin ether, see Benzyl abietate; Ethyl abietate.*  
Resinic acid, metal coated using, 790.  
—, wood coated using, 790.  
Resinic ether, record, phonograph, containing, 2604.  
Resinoids, shoe stiffened with, 2472.  
Resin oil, 2055.  
—, cellulose ether solvent, 41.  
—, plastic containing, 2571.  
—, purifying, 41.  
Resins, artificial, 2104, 2105.  
—, —, benzyl chloride in mfr., 1297.  
—, —, indurating, preventing, 2575.  
—, benzylcellulose combined with, 266.  
Resins, cellulose acetate delustred using, 607.  
—, cellulose acetate solvent, 1819.  
—, cellulose derivatives and, 762.  
—, cellulose ether combined with, 58.  
—, cellulose ether plastic with, 193.  
—, cellulose ether spun with, 2104.  
—, decorative leaf made using, 457.  
—, ethylcellulose combined with, 266.  
—, fabric, treated with, 2344.  
—, filament, hollow, spun using, 2367.  
—, flooring made using, 1092.  
—, glass, laminated, made using, 2586.  
—, glyceryl phthalate, 2582.  
—, —, leather, artificial, made using, 2462.  
—, lacquer of cellulose acetate and, 703.  
—, methylcellulose combined with, 266.  
—, phosphorescence produced by, 1372.  
—, stencil sheet made using, 2488.  
Resin soap, 2210.  
—, cellulose ether treated with, 143.  
—, plastic made using, 2574.  
—, solubilizing agent, 2211.  
—, stencil sheet made using, 2498.  
Resin solvent, benzyl chloride in mfr., 1297.  
Resistance, electrical, light-sensitive, cellulose acetate in mfr., 731.  
—, —, —, selenium in mfr., 731.  
Resistance material, cellulose acetate in mfr., 802.  
—, electric, cellulose acetate and iron for, 801.  
Resistance unit, electrical, cellulose acetate in mfr., 817.  
Resists, preparing, 190, 2314.  
*Resorcin, see Resorcinol.*  
Resorcinol, 739, 826, 1860, 1926, 1999, 2172, 2319, 2320.  
—, aldehyde condensate of, 456.  
—, amines solvent for, 2012.  
—, bromide derivative of, fire-retardant, 1374.  
—, bromo, cellulose ether inflammability reduced by, 182.  
—, cellulose acetate combined with, 533.

- Resorcinol, cellulose acetate dyed using, 503, 540, 676, 711, 808, 2235.
- , cellulose acetate emulsion containing, 128.
- , cellulose acetate plastifier, 340, 398.
- , cellulose acetate printing, use in, 672.
- , cellulose acetate protected by, in mercerizing, 616.
- , cellulose acetate saponified by, 832.
- , cellulose acetate solvent, 966.
- , cellulose ether dyed using, 2265, 2274, 2275, 2278, 2289, 2306.
- , cellulose ether emulsion containing, 128.
- , cellulose ether solvent, 52, 106.
- , cellulose formate solvent, 463.
- , cellulose formylacetate saponified by, 832.
- , cellulose phosphoacetate saponified by, 832.
- , cellulose sulfacetate saponified by, 832.
- , crystal effects produced by, 2430.
- , delustring prevented by, 197.
- , delustring with, 2185, 2187.
- , dye removed from cellulose acetate by, 825.
- , film, cellulose acetate dyed using, 1006.
- , film made using, 2510.
- , flash point, 2061.
- , lacquer containing, 2396.
- , luster preserving by, 2171.
- , molded article containing, 41.
- , mordant containing, 843, 2317.
- , paper coated with cellulose nitrate and, 645.
- , record, phonograph, using, 859.
- Resorcinol acetate, cellulose acetate solvent, 813.
- , formaldehyde condensate with, 40.
- Resorcinol *mono*-acetate, glass, laminated, made with, 789.
- Resorcinolbenzenedimethyl ether bromide, cellulose nitrate and, 283.
- , ethylcellulose butyrate and, 283.
- , film, colored, made using, 2531.
- Resorcinolbutylmethyl ketone, 40.
- Resorcinol diacetate, 374, 1820, 1898, 1906, 1923, 1926, 1927, 1945.
- Resorcinol diacetate, benzylcellulose plastified by, 102, 1578.
- , benzylcellulose solvent, 41.
- , cellulose acetate plastifier, 388.
- , cellulose acetate solvent, 41.
- , cellulose ether solvent, 51, 54.
- , ethylcellulose plastified by, 102.
- , ethylcellulose solvent, 41.
- , lacquer containing, 429.
- , methylcellulose plastified by, 102.
- , propylcellulose solvent, 41.
- Resorcinoldicarbonyl ester, 1906.
- Resorcinol dicarboxylic diethyl ether*, see *Diethylresorcinol dicarboxylate*.
- Resorcinoldiethyl ether, 40.
- Resorcinol ethyl ether, 1871.
- Resorcinolethylphenoxyphenyl sulfonate, 2034.
- Resorcinol hexamethylenetetramine condensate, 40.
- Resorcinol ketones, 40.
- Resorcinolmethyl ether, 1871.
- Resorcinolmethoxyphenyl sulfonate, 2034.
- Resorcinol monoacetate, 41, 1719, 1927.
- , cellulose acetate plastifier, 465.
- , cellulose ether solvent, 54.
- , glass, laminated, made using, 2591.
- Resorcinolnaphthyl sulfonate, 2034.
- Resorcinolnitronaphthyl sulfonate, 2034.
- Resorcinolnitrotolyl sulfonate, 2034.
- Resorcinol-*m*-phenylenediaminesulfanilic acid, cellulose ester dyed with, 120.
- , cellulose ether dyed with, 120.
- Resorcinolphenyl sulfonate, 2034.
- Resorcinolphthalein*, see *Fluorescein*.
- Resorcinolpropyloxyphenyl sulfonate, 2034.
- Resorcinoltolyl sulfonate, 2034.
- Resorcinolxylyl sulfonate, 2034.
- Resorcylic acid, diazotypes made using, 2534.
- , negative diazotypes made using, 2534.
- g-Resorcylic acid*, see *Dihydroxybenzoic acid*.
- Respirator, odorless, cellulose acetate for mfr., 482.
- Resyl II, constants of, 2055.

- Resyls, leather, artificial, made using, 2462.
- Rhamnetin, 317.
- Rhamnetin acetate, 317.
- Rhamnitediformal, 1857, 1886, 1894.
- Rhamnolulcite, 317.
- Rhamnolulcite acetate, 317.
- Rhamnose, 1498.
- iso-Rhamnose, 1498.
- Rhatany*, see *Extract rhatany*.
- Rhizopus*, 2201.
- , growth on cellulose acetate fabric, 965.
- Rhodalline*, see *Thiosinamine*.
- Rhodamine, 401.
- , cellulose ether dyed using, 2296.
- , light-transforming composition containing, 461.
- , pearl essence made using, 2617.
- Rhodamine B, 885, 886, 2640.
- , cellulose ether dye, 2147.
- Rhodamine G, cellulose acetate dyed with, 512.
- Rhodamine 3G, cellulose ether dyed using, 2288.
- Rhodamine 3G extra, cellulose ether dyed with, 179.
- Rhodamine 6G, 886.
- , cellulose ether dye, 2222.
- Rhodialine, 2567.
- Rhodiaseta, 780, 1071.
- , delustring, 909.
- , dyeing properties, 909.
- , fluorescence, 909.
- , mfr., 639.
- , properties, 909.
- , see also *Cellulose acetate*.
- Rhodoide, 665, 2567.
- , properties, 689.
- Rhoduline Blue 6G, cellulose ether dye, 2222.
- Rhoduline Heliotrope B, cellulose acetate dyed using, 2235.
- Rhoduline Orange, 943.
- , cellulose acetate relusted by, 623.
- Rhoduline Orange NO, cellulose acetate dyed using, 1025.
- Rhoduline Red B, 531.
- , cellulose ether dye, 2222.
- Rhoduline Red NO, cellulose ester dyed with, 195, 197.
- , cellulose ether dyed with, 195, 197.
- Rhoduline Yellow, cellulose ether dye, 2222.
- Rhum, cellulose acetate dyed, 1034.
- Ribbon, artificial, cellulose acetate mfr., 447.
- , —, cellulose ester in mfr., 270.
- , —, cellulose ether in mfr., 270.
- , —, mfr., 2373.
- , benzylcellulose, mfr., 272.
- , cellulose acetate, mfr., 225, 854, 959, 962.
- , cellulose acetate, pliability of, improving, 935.
- , cellulose acetate saponifying, 852.
- , cellulose ether, mfr., 229, 2108, 2359.
- , cleaning, 257.
- , ethylcellulose, mfr., 225, 272.
- , mfr., 866.
- , metallizing, 2363.
- , methylcellulose, mfr., 272.
- , typewriter, stains from, removing, 2552.
- Ribose, 1498.
- Rice hulls, acetic acid from, 481.
- , cellulose acetate solvent from, 481.
- , furfural from, 481.
- Rice husks, etherification of, 12.
- Rice starch*, see *Starch, rice*.
- Ricinoleic acid, 2427.
- , cellulose ester coagulated by, 133.
- , cellulose ether coagulated by, 133, 2097.
- , glycerol condensed with, 234.
- , lacquer containing, 2428.
- , pentaerythritol condensed with, 234.
- , sorbitol condensed with, 234.
- , stencil sheet made using, 2488.
- , sulfonated, cellulose ether dyed using, 2266.
- Ricinoleic acid chloride, cellulose butyrricinoleate made with, 1713.
- , cellulose ricinoleobutyrate made with, 1713.
- Ricinoleic ester, mfr., 591.
- Ricol, plasticizing value, 1794.
- , see also *Castor oil, blown*.
- Road oil, ethyl chloride from, 1268.
- Rocelline, benzylcellulose dyed with, 1854.
- , cellulose ester dyed by, 62.
- , cellulose ether dyed using, 2226.
- , ethylcellulose dyed by, 62.
- , ethylcellulose dyed by, 62.

- Rochelle salt*, see *Potassium sodium tartrate*; *Sodium potassium tartrate*.
- Rock, coloring, cellulose acetate for, 1013.
- Rock crystal*, see *Quartz*.
- Rod, variegated, mfr., 1022.
- Rodinal*, see *p-Aminophenol*.
- Roentgen ray, fabric impermeable to, 358.
- Roller, spinning, cellulose acetate for coating, 378.
- Rolls, calendar, cellulose acetate covered, 933.
- Rongalite, 2240.
- Rongalite C, reducing with, 208.
- Ronisol, 2568.
- Roofing, transparent, cellulose ether for, 194.
- Rooms, insulating, cellulose acetate for, 2439.
- Rosaniline, 1137.
- , amines solvent for, 2012.
- , see also *Fuchsine*.
- Rosaurine*, see *Rosolic acid*.
- Rose, bluish, cellulose ether dyed, 2258, 2261.
- , cellulose ether dyed, 2243, 2263.
- , nitrobenzylcellulose dyed, 1597.
- Roseine*, see *Fuchsine*.
- Rosemary oil, 1964, 2044.
- , cellulose acetate solvent, 1818, 1819.
- Rosin, 1921, 2042, 2053.
- , alcohol solidified using, 486.
- , alkyl abietate from, 884.
- , amines solvent for, 2012.
- , *iso*-amylabietate from, 884.
- , benzylcellulose and, 175.
- , *isobutyl* abietate from, 884.
- , cellulose ether combined with, 58.
- , dry cell seal made using, 2408.
- , ethyl abietate from, 884.
- , ethylcellulose and, 175.
- , glyceryl ester of, benzylcellulose combined with, 178.
- , —, ethylcellulose combined with, 178.
- , —, methylcellulose combined with, 178.
- , grade M, constants of, 2055.
- , hexyl abietate from, 884.
- , hollow filament made using, 829.
- , methylcellulose and, 175.
- , phosphorescence produced by, 1372.
- Rosin, plastic of cellulose acetate and, 1030.
- , powder, black, containing, 2470.
- , *isopropyl* abietate from, 884.
- , *n*-butyl abietate from, 884.
- , *n*-propyl abietate from, 884.
- , sizing with, 2141.
- , stencil sheet made using, 2490.
- , transfer made using, 2550.
- Rosin "E," solvents of, 1849.
- Rosin ester, 1853.
- , cellulose ether lacquer containing, 188.
- , constants of, 2055.
- , phosphorescence produced by, 1372.
- Rosolic acid, amines solvent for, 2012.
- Rotten stone, record, phonograph, made using, 822, 2604.
- R O V*, see *Sulfuric acid*.
- Rubber, 1969, 1972.
- , acetic acid action on, 1043.
- , adhesive made using, 1006.
- , artificial, mfr., 383.
- , benzene combined with, 2410.
- , benzylcellulose plastic with, 232.
- , butyl acetate combined with, 2410.
- , butyl phthalate combined with, 2410.
- , cellulose acetate and, 430, 665, 784, 810, 876, 938, 1078, 2409.
- , cellulose acetate coated, 551.
- , cellulose acetate impregnated with, 934.
- , cellulose acetate plastic containing, 87.
- , cellulose acetate solvent, 1819.
- , cellulose acetate as substitute for, 592.
- , cellulose combined with, 538.
- , cellulose derivative and, 762.
- , cellulose ester for coating, 245.
- , cellulose ether combined with, 2409.
- , cellulose ether and as plastic, 254.
- , cellulose ether electrodepositing with, 128.
- , cellulose ether emulsion with, 128.
- , cellulose ether for coating, 245.
- , cellulose ether for mfr. substitute for, 192.

- Rubber, cellulose ether water-proofed by, 135.
- , cellulose formate plastic containing, 87.
  - , cellulose monoacetate-distearate and, 1717.
  - , cellulose naphthenate as substitute for, 788.
  - , cellulose naphthenate-oleate as substitute for, 788.
  - , cellulose nitrate plastic containing, 87.
  - , cement, linoleum, containing, 2547.
  - , chlorbenzene coated with, 201.
  - , cigarette tip containing, 2432.
  - , cloth coated with, 211.
  - , cobalt linoleate combined with, 2410.
  - , cork with, as plastic, 153.
  - , crepe effect made using, 2338.
  - , cyclohexanol as solvent for, 810.
  - , cyclohexanone solvent of, 593.
  - , dichlormethane coated with, 201.
  - , electrodepositing, 1378.
  - , ethyl acetate combined with, 2410.
  - , ethyl benzoate as solvent of, 889, 890.
  - , ethylcellulose combined with, 222, 2410, 2546.
  - , ethylcellulose plastic with, 232.
  - , fabric coated with, 2483.
  - , film, thin, properties, 805.
  - , flowers, artificial, made using, 972.
  - , foam-like mass of, mfr., 431.
  - , hexalin as solvent of, 539.
  - , indurated, dental use of, 2536.
  - , ink containing, 2547.
  - , lacquer of cellulose acetate and, 703.
  - , lacquer containing, 2399, 2544.
  - , leather coated with, 211.
  - , leather substitute made using, 2636.
  - , linseed oil combined with, 2410.
  - , lithopone combined with, 2410.
  - , metal coated with, 211, 790.
  - , methyl benzoate as solvent of, 889, 890.
  - , methylcellulose combined with, 2545.
  - , molding, cellulose acetate for, 652.
  - , paint containing, 824, 2544.
- Rubber, paper coated with cellulose acetate and, 994.
- , paste, methylcellulose with, 1347.
  - , peat for, 1165.
  - , pearl essence made using, 2620.
  - , perilla oil combined with, 2410.
  - , plastic made using, 2577.
  - , porous, mfr., 431.
  - , protecting, cellulose acetate for, 1038.
  - , record, phonograph, containing, 2605.
  - , silk combined with, 2335.
  - , solvents for, 1786.
  - , starch naphthenate-oleate-stearate as substitute, 788.
  - , *ar*-tetrahydronaphthol solvent of, 593.
  - , tetralin as solvent for, 539.
  - , turpentine combined with, 2410.
  - , vulcanized, amines as solvent of, 2013.
  - , —, cellulose acetate combined with, 2542.
  - , —, cellulose nitrate combined with, 2542.
  - , —, cellulose thiocyanate in mfr. of, 523.
  - , —, printing on, 2329.
  - , waterproofing with, 2160.
  - , wire coated with, 2554.
  - , wire gauze coated using, 874.
  - , wood coated with, 201, 211, 790.
  - , xylene for coating with, 201.
  - , zinc oxide combined with, 2410.
  - , *see also Caoutchouc*.
- "Rubber celluloid," 539 .
- Rubber latex, 1605.
- , lacquer of cellulose acetate and, 703.
  - , methylcellulose with, 193.
  - , *see also Latex*.
- Rubber paste, methylcellulose for mfr. of, 193.
- Rubber sols, elasticity of, 819.
- , viscosity of, 819.
- Rubber substitute, resorcinol in, 41.
- Rubber tubing, see Tubing, rubber.*
- Rubin, see Fuchsine.*
- Ruby, 675.
- Rue oil, 1964, 2044.
- , cellulose acetate solvent, 1818, 1819.
- Rufigallol, see Rufigallic acid.*
- Russian leather oil, 2473.

*Rutic acid*, see *Caproic acid*.

Rutile, 2174.

Rye straw, alkylating, 282.

—, benzylating, 282, 1541.

Rye straw ether, mfr. of, 282.

—, solubility of, 282.

*d*-Saccharic acid, 1510.

Saccharide, alkyl, 1496.

—, delustring with, 2186.

Saccharin, 2035.

*iso*-Saccharin, 543.

*Saccharo-colloids*, see *Polysaccharides*.

*Saccharolactic acid*, see *Mucic acid*.

Saccharose acetate, 2058.

Saccharose hepta-acetate, 1937, 2058.

Saccharose linoleate, mfr., 642.

Saccharose linolenate, mfr., 642.

Saccharose mono-acetate, 1937.

Saccharose octa-acetate, 1937, 2058.

*Saccharose octonitrate*, see *Nitrosaccharose*.

Saccharose oleate, mfr., 642.

Saccharose tetra-acetate, 1937, 2058.

S-acid, 1744.

*Safetex glass*, see *Glass, laminated*.

"Safety Celluloid," 600.

*Safety glass*, see *Glass, laminated*.

Saffranine, 531.

—, cellulose ether dye, 2222.

—, cellulose ether film containing, 2512.

Saffranine FF, cellulose ester dyed with, 195.

—, cellulose ether dyed with, 195.

Safrol, 1822, 1863, 1871, 1872, 1963.

—, camphor substitute, 2052.

—, cellulose acetate plasticizer, 398, 452.

—, cellulose acetate solvent, 1818, 1819.

*iso*-Safrol, 1732, 1871, 1872.

—, cellulose acetate plasticizer, 398, 452.

—, cellulose acetate solvent, 1818, 1819.

Sage oil, 1964, 2044, 2045.

—, cellulose acetate solvent, 1818, 1819.

Salacatin, 1832.

—, see also *Acetylsalicylic acid*.

Salacetol, 1832, 1964.

Salacin, 1507.

Salantol, 1832.

—, see also *Salacetol*.

*Saletin*, see *Acetosal*.

Salicin, 1132.

—, acetic acid action on, 311.

—, ester of, 311.

Salicylacetic acid, 2427.

—, glycerol condensed with, 234.

—, pentaerythritol condensed with, 234.

—, sorbitol condensed with, 234.

Salicylacetol, 1964.

—, see also *Salacetol*.

Salicylaldehyde, 1868, 1878, 1889.

—, celluloid solvent, 890.

—, cellulose acetate plasticizer, 1042.

—, cellulose acetate solvent, 890, 1785.

*Salicylaldehyde methylphenylhydrazine*, see *Agathin*.

Salicylamide, 2006.

Salicylanilid, mildewproofing using, 2202.

Salicylates, 2446.

Salicylic acid, 1022, 1655, 1793, 1894, 2446.

—, amines solvent for, 2013.

—, arylamides of, mildewproofing using, 2202.

—, cellulose acetate delustred by, 722.

—, cellulose acetate dyed using, 610, 674, 883.

—, cellulose ether color discharged by, 218.

—, cellulose ether dyed using, 2265, 2277.

—, crystal effects produced with, 2429, 2430.

—, guanin insoluble in, 2614.

—, methyl sulfate in mfr. of, 1264.

—, paper coated with cellulose nitrate and, 645.

—, printing paste containing, 2325.

Salicylic acid ester, cellulose acetate plastifier, 340.

Salicylic aldehyde, delustring with, 210, 2190, 2197.

—, see also *Salicylous acid*.

Salicylic anilid, mildewproofing using, 2202.

Salicylic esters, 1957.

*Salicylic ether*, see *Ethyl salicylate*.

- Salicylic ether of  $\alpha$ -naphthol*, see *Alphol*.  
*Salicylic sulfochloride*, 493.  
*Salicylous acid*, 1894.  
*Salicyloxyacetic acid*, see *Salicylacetic acid*.  
*Saligenin*, 1860.  
 —, cellulose acetate plastifier, 340.  
 —, horn, artificial, made using, 2607.  
 —, see also *Hydroxy-benzyl alcohol*.  
*Salimenthol*, 1938.  
*Salinaphthol*, see *Betol*.  
*Salipyrin*, 1965.  
 —, see also *Antipyrin salicylate*.  
*Salit*, see *Bornyl salicylate*.  
*Salithymol*, see *Thymol salicylate*.  
*Salitre*, see *Sodium nitrate*.  
*Salol*, 1964, 2022.  
 —, cellulose acetate plasticizer, 433.  
 —, cellulose acetate solvent, 1818, 1819.  
 —, dental plate containing, 2537.  
 —, see also *Phenyl salicylate*.  
*Salt*, sponge, artificial, made using, 2536.  
 —, see also *Sodium chloride*.  
*Saltpeter*, see *Potassium nitrate*.  
*Salts*, anhydrous, mfr., 691.  
 —, inorganic, benzylcellulose treated with, 1561.  
*Salve*, cellulose ether in mfr., 2450.  
 —, inulin ether in, 1161.  
*Salve-like product*, cellulose acetate in mfr. of, 479.  
*Sandarac*, 1921.  
 —, acetone as solvent of, 1885.  
 —, amyl furoate solvent for, 1997.  
 —, benzyl acetate solvent for, 1928.  
 —, benzyl alcohol solvent for, 1862.  
 —, butyl acetate solvent of, 1919.  
 —, butyl furoate solvent for, 1997.  
 —, cellulose ether varnish with, 135.  
 —, constants of, 2056.  
 —, cyclohexanone solvent of, 1985.  
 —, cyclohexanyl acetate solvent of, 1990.  
 —, decorative leaf made using, 457.  
 —, dichlorethane solvent for, 1816.  
 —, dichlorethylene solvent for, 1821.  
 —, dioxane solvent for, 1876.  
 —, epichlorhydrin solvent for, 1842.  
 —, ethyleneglycol monoethyl ether solvent for, 1851.  
 —, ethyl furoate solvent for, 1997.  
*Sandarac*, ethylglycol solvent for, 1851.  
 —, furfural solvent for, 1997.  
 —, furfuryl alcohol solvent for, 1997, 1999.  
 —, methyl furoate solvent for, 1997.  
 —, pentachlorethane solvent for, 1818.  
 —, phosphorescence produced by, 1372.  
 —, *n*-propyl acetate solvent for, 1997.  
 —, solvents for, 1849.  
 —, tetrahydrofurfuryl alcohol solvent for, 1997.  
 —, toluene solvent for, 1805.  
 —, trichlorethylene solvent for, 1825.  
 —, see also *Resins*.  
*Sangajol*, 1463.  
 —, ethylcellulose purified by, 269.  
 —, see also *White spirit*.  
*Sanga oil*, ethylbutylcellulose and for lacquer mfr., 2426.  
 —, methylbutylcellulose and for lacquer mfr., 2426.  
*Santalyl allophenate*, 1907.  
*Santalyl benzoate*, 1907.  
*Santalyl carbonate*, 1907.  
*Santalyl methyl ether*, 1907.  
*Santalyl salicylate*, 1907.  
*Santalyl stearate*, 1908.  
*Santalyl iso-valerianate*, 1908.  
*Santicizer I*, see *p-Toluenesulfamide*.  
*Santicizer III*, see *p-Toluenesulfoethylamide*.  
*Santicizer VIII*, see *m-Toluenesulfoethylamide*.  
*Santyl*, 1907.  
 —, see also *Santalyl salicylate*.  
*Santyl camphorate*, 1907.  
*Sapamines*, 2384.  
 —, electrical discharge in fibers prevented by, 215.  
 —, insulating using, 2438.  
*Saponification*, dyeing processes involving, cellulose ether dyed using, 2306.  
*Saponin*, 2640.  
 —, cellulose acetate dyed using, 504, 649, 718.  
 —, cellulose acetate solubilizer, 903.  
 —, cellulose nitrate emulsifier, 267.  
 —, dispersing agent, 2209.  
 —, emulsifying with, 267.

- Saponin, guanin purified by, 2617.  
 —, lacquer containing, 2415.  
 —, wetting-out agent, 2357.  
 Sapphire blue B, cellulose ether dyed using, 2289.  
 Sasanqua oil, stencil sheet made using, 664, 976, 2490.  
 Sassafras, 2045.  
 Sassafras oil, 1964, 2044.  
 —, cellulose acetate solvent, 1818, 1819.  
 Sateen, coated, benzylcellulose for, 1590.  
 Satin, cellulose acetate, dyeing, 1001.  
 —, crepe-back, dyeing, 920.  
 —, physical properties of, 657.  
 Sativic acid, *see Tetraoxystearic acid*.  
 Satolite, 665.  
 Satunese, 940.  
 Sausage, cellulose ester film for encasing, 277.  
 —, cellulose ether film for encasing, 277.  
 "Savon de Marseille," 2143.  
 Sawdust, acetic acid mfr. from, 736, 858, 869, 919.  
 —, artificial wood from cellulose acetate and, 422.  
 —, butyric acid from, 858.  
 —, formic acid from, 858.  
 —, lactic acid mfr. from, 736, 919.  
 —, methylating, 276.  
 —, oxalic acid from, 858.  
 —, pine, etherifying, 233.  
 —, plastic made containing, 2564, 2573, 2574.  
 —, succinic acid from, 858.  
 Scales, goldfish, pearl essence made using, 2616.  
 Scarlet, blue, cellulose ether dyed, 2293.  
 —, cellulose acetate dyed, 493, 540, 596, 610, 611, 845, 962.  
 —, cellulose ether dyed, 139, 144, 181, 2243, 2266, 2267, 2270, 2272, 2277, 2291, 2293.  
 Schaffer's acid, nitrobenzylcellulose dyed with, 1597.  
 Schist, synthesis, pearl, using, 2611.  
 Schizosaccharomyces, 1156.  
 Schoop apparatus, 2151.  
 Schoop metallizing apparatus, 216.  
 Schotten-Baumann method, 5.  
 Schreiner finish, cellulose acetate for producing, 376.  
 Schweitzer's reagent, 16, 35, 36.  
 —, methylcellulose solvent, 32, 33, 34.  
 Scintillating effect, producing, 2362.  
 Scopolamine, *see Hyoscine*.  
 Scouring, cellulose acetate, 652.  
 —, cotton, 652.  
 Screen, cellulose acetate coated, 884.  
 —, coating, 1077.  
 —, color, cellulose acetate, 902.  
 —, —, mfr., 2635.  
 —, ethylcellulose, 160.  
 —, fluorescent, calcium tungstate in mfr. of, 503.  
 —, —, cellulose acetate, 687.  
 —, —, mfr., 2541.  
 —, —, cellulose acetate in, 503, 518.  
 —, folding, ethylcellulose, mfr., 2535.  
 —, luminous, mfr., 2540.  
 —, —, cellulose acetate for, 2540.  
 —, metallic, cellulose acetate coated, 767.  
 —, —, mfr. of, cellulose acetate in, 862.  
 —, mosaic, mfr., 868.  
 —, multicolor, cellulose acetate, 761.  
 —, —, mfr., 2532, 2533.  
 —, —, —, aniline oil in, 2533.  
 —, —, —, cellulose acetate in, 872, 909.  
 —, —, —, cellulose nitrate in, 2533.  
 —, —, —, molybdc acid in, 509.  
 —, —, —, nitrobenzene in, 2553.  
 —, —, —, tannin in, 509.  
 —, —, —, tungstic acid in, 509.  
 —, —, —, tungsticphosphoric acid in, 509.  
 —, multicolor photographic, cellulose acetate, 917.  
 —, —, mfr. of, cellulose acetate for, 839.  
 —, photographic, *see Photography, screen*.  
 —, photomechanical, cellulose acetate in mfr., 974.  
 —, picture, mfr., 1095.  
 —, polychromatic, mfr., 2534.  
 —, —, *see also Photography, screen*.



- Screen, projection, cellulose acetate for mfr., 436, 467, 574.  
 —, X-ray, mfr., 2540.  
 —, —, —, cellulose acetate in, 518, 2540.  
 Scroop, imparting, 2202.  
 —, increasing, 935.  
 —, producing, 63.  
*Sea Island cotton, see Cotton, Sea Island.*  
*Sealing bottles, see Bottles, capping.*  
 Sealing wax, dry cell seal made using, 2408.  
 —, mfr. of, benzylcellulose for, 2539.  
 —, —, cellulose laurate for, 237.  
 —, —, ethylcellulose for, 2539.  
 —, —, ethylcellulose laurate for, 237.  
 —, —, fats for, 2539.  
 —, —, *b*-naphthol-methyl-ether for, 2539.  
 —, —, oils for, 2539.  
 —, —, phenol-resin for, 2539.  
 —, —, waxes for, 2539.  
 Sea-weed, alkylating, 282.  
 —, benzylating, 282, 1541.  
 Sea-weed ether, mfr. of, 282.  
 —, solubility of, 282.  
 Sebacic acid, glyceryl condensate of, cellulose acetate plastifier, 939.  
 Sebacic esters, 1939.  
*Sebacic ether, see Ethyl sebacate.*  
*Sebacinic acid, see Sebacic acid.*  
*Sebacinic ether, see Ether sebacate.*  
*Sebacylic acid, see Sebacic acid.*  
*Sebacylic ether, see Ethyl sebacate.*  
 Securite, 2568.  
*Sedatine, see Antipyrin.*  
 Seersucker, cellulose ester ornamenting, 215.  
 —, cellulose ester printing on, 215.  
 —, cellulose ether ornamenting, 215.  
 —, cellulose ether printing on, 215.  
 —, mfr., 2352.  
 Selachyl alcohol, stencil sheet made using, 2490.  
 Selenic acid, catalyst in cellulose acetate mfr., 1014.  
 Selenides, tumors, malignant, treated with, 2446.  
 Selenium, amines solvent for, 2013.  
 —, colloidal, mfr., 2448.  
 Selenium, conductor, wire, fire-proofed using, 732.  
 —, resistance, electrical, light-sensitive, made using, 731.  
 Selenium emulsion, mfr. of, cellulose ether for, 86.  
 Selvage, plasticizing, producing, 2360.  
 Semi-crepe effect, cellulose acetate for, 852.  
 —, producing, 2335.  
 Seraceta, 922.  
 —, sizing, 922, 2137.  
 Sericose, 555.  
 Sericose L., 344.  
 —, damask effect by, 2340.  
 Serum-proteins, cellulose acetate combined with, 992.  
 Serviette, imitation, cellulose acetate in mfr., 996.  
 Sesqui-*o*-chlorbenzylcellulose, 1532, 1533.  
 Sesqui-sodium cellulosate, 1535.  
 Sesqui-terpenes, cellulose ether spinning bath containing, 2083.  
 —, filament cleaned by, 257.  
 —, film cleaned by, 257.  
 —, ribbon cleaned by, 257.  
 —, thread cleaned by, 257.  
 Setacyl, 826.  
 —, cellulose acetate dyed with, 641, 739, 920.  
 —, cellulose acetate dyestuff, 677.  
 —, printing, color, with, 2327.  
 Setacyl direct dyes, application of, 2312.  
 —, cellulose ether dyed using, 2292.  
 Setacyl dyes, 2320.  
 —, cellulose ether dyed using, 2292.  
 Setilose, delustring, 909.  
 —, dyeing properties, 909.  
 —, fluorescence, 909.  
 —, microscopic examination, 848.  
 —, properties, 909.  
 Setocyanine, cellulose acetate dyed using, 814.  
 Setoglaucine, cellulose acetate printed on using, 716.  
 —, printing paste containing, 2325.  
 —, wetting agent, 2208.  
 Setopaline, 2320.  
 Setyl, cellulose acetate dyed by, 619.  
 Sextate, 1990.  
 —, *see also Methylcyclohexanyl acetate; Methylcyclohexyl acetate.*  
*Sextol, see Methylcyclohexanol.*

- Sextone*, see *Cyclohexanone*;  
*Methylcyclohexanone*.  
*Sextone B*, see *Methylcyclohexanone*.  
Shadomist, cellulose acetate dyed, 1034.  
Shale, acid from, 461.  
—, aldehyde from, 461.  
Shale oil, ethyl chloride from, 1268.  
Shantunese, cellulose acetate fabric, 630.  
Shark oil, stencil sheet made using, 664.  
*Shatterless glass*, see *Glass, laminated*.  
Sheet, benzylcellulose, mfr., 1574.  
—, cellulose acetate, coalescing, 740.  
—, —, decorating, 555, 720.  
—, —, mfr., 692, 812, 1100.  
—, cellulose ester, conditioning, 304.  
—, —, cutting, 302.  
—, —, mfr. of, 304.  
—, —, translucent, mfr., 277.  
—, cellulose ether conditioning, 304.  
—, —, cutting, 302.  
—, —, mfr. of, 212, 304.  
—, —, translucent, mfr., 277.  
—, —, waterproofing, 2636.  
—, composite, 2597.  
—, —, mfr. of, cellulose acetate in, 692.  
—, —, —, cellulose ether in, 2599.  
—, glass, uniting, cellulose ether for, 2636.  
—, imitation, mfr. of, cellulose acetate in, 996.  
—, laminated, 2597.  
—, —, cellulose acetate in, 812.  
—, —, mfr., 2597.  
—, mfr. of, acetic acid in, 468.  
—, —, acetone in, 468.  
—, —, castor oil in, 468.  
—, —, cellulose acetate in, 468.  
—, —, cellulose nitrate in, 468.  
—, —, China wood oil in, 468.  
—, matt, mfr., 699.  
—, methylcellulose, 153.  
—, palm oil in mfr. of, 468.  
—, rape oil in mfr. of, 468.  
—, reinforced, benzylcellulose for, 1570.  
—, stencil, mfr., cellulose acetate for, 686.  
Sheet, stencil, mfr., 1092.  
—, transparent, reinforced, mfr., 2554.  
—, waterproof, cellulose acetate, 433.  
—, —, cellulose nitrate, 433.  
Shellac, 1969, 2042, 2053, 2054.  
—, acetone as solvent of, 1885.  
—, alcohol solidified using, 486.  
—, amyl furoate solvent for, 1997.  
—, benzyl alcohol solvent for, 1862.  
—, benzylcellulose and, 175.  
—, benzylcellulose plasticizer, 188.  
—, bleached, constants of, 2056.  
—, butyl furoate solvent for, 1997.  
—, celluloid paint containing, 756.  
—, cellulose ester ink containing, 964.  
—, coating composition containing, 530.  
—, condensers, electrical, made using, 803.  
—, cyclohexanone, solvent of, 1985.  
—, dichlorethylene solvent for, 1821.  
—, dioxane solvent for, 1876.  
—, ethylcellulose and, 175.  
—, ethylcellulose plasticizer, 188.  
—, ethyl furoate solvent for, 1997.  
—, furfuryl alcohol solvent for, 1997, 1999.  
—, glyceryl formate as solvent for, 158.  
—, glycol diformate as solvent for, 158.  
—, glycol *mono*-formate as solvent for, 158.  
—, methylcellulose and, 175.  
—, methyl furoate solvent for, 1997.  
—, orange, constants of, 2056.  
—, —, ink containing, 2475.  
—, —, ink, marking, containing, 2330.  
—, —, record, phonograph, containing, 2604.  
—, paint containing, 825, 2544.  
—, plastic made using, 2581.  
—, polish, shoe, made using, 689.  
—, propyl furoate solvent for, 1997.  
—, record, phonograph, made using, 822, 2600.  
—, solvents for, 1849.  
—, tetrahydrofurfuryl alcohol solvent for, 1997.  
—, white, amines solvent for, 2013.  
—, see also *Resins*.

- Shellac, 1833.  
Shellac substitute, benzyl chloride in mfr., 1297.  
Shells, shotgun, waterproofing, benzylcellulose for, 2413, 2414.  
—, —, —, butyl alcohol for, 2414.  
—, —, —, ethyl acetate for, 2414.  
—, —, —, paraffin for, 2414.  
—, —, —, toluene for, 2414.  
—, —, —, xylene for, 2414.  
—, waterproofing of, benzylcellulose for, 2413.  
—, —, ethylcellulose for, 2413.  
—, —, methylcellulose for, 2413.  
Ship bottom, lacquer for, 2419.  
—, paint for, 556.  
Shirt front, cellulose acetate for stiffening, 792.  
—, mfr. of, cellulose acetate in, 423.  
—, —, cellulose nitrate in, 423.  
—, semi-stiff, lacquer for application to, 2397.  
—, stiffener for, cellulose acetate for, 792.  
—, waterproofing, cellulose acetate for, 423.  
*Shock defying glass, see Glass, laminated.*  
Shoe, colored, blackening of, ethyleneglycol monocresyl ether in, 2473.  
—, —, —, ethyleneglycol monopropyl formate in, 2473.  
—, —, —, nigrosine in, 2473.  
—, greaseproofing, cellulose acetate for, 687, 688.  
—, stiffener for, abietic acid for, 693.  
—, —, alcohol for, 693.  
—, —, benzene for, 693.  
—, —, cellulose acetate for, 613, 693, 810.  
—, —, cellulose ether for, 2471.  
—, —, copal for, 693.  
—, —, triphenyl phosphate for, 693.  
—, —, zinc oxide for, 693.  
Shoe creams, cyclohexanol in mfr., 1983.  
Shoe heel, benzyl alcohol for, 525.  
—, cellulose acetate for, 525.  
—, dichlorethylene for, 525.  
—, dichlorhydrin for, 525.  
—, lacquer for, 525.  
—, triacetin for, 525.  
Shoe last, celluloid in mfr., 2472.  
Shoe patches, celluloid in mfr., 2472.  
*Shoe polish, see Polish, shoe.*  
Shoe tips, celluloid in mfr., 2472.  
Shotgun cartridge, cellulose ester for waterproofing, 231.  
—, cellulose ether for waterproofing, 231.  
—, waterproofing, 231.  
Shutter, cinematograph, cellulose acetate in mfr., 476.  
—, projection, cellulose acetate in mfr., 476.  
Sicoid, 665, 2568.  
Signal, traffic, mfr. of, barium sulfate in, 1001.  
—, —, —, cellulose ester in, 1001.  
—, —, —, lithopone in, 1001.  
Silex, filler containing, 2480.  
—, primer containing, 2480.  
Silica, 2193.  
—, catalyst, 154.  
—, cellulose ether delustred by, 271.  
—, delustring by, 271.  
—, phonograph record of cellulose acetate and, 678.  
Silica gel, acetone recovered by absorption in, 947.  
—, acetone recovery by, 2127.  
—, catalyst, 564, 864.  
—, solvent recovery by, 2127.  
Silicate, loading benzylcellulose with salts of, 1584.  
—, paper waterproofed by, 645.  
—, textiles waterproofed by, 645.  
*Silicate of soda, see Water glass.*  
Silicic acid, 1674.  
—, cellulose acetate film decolorized by, 592.  
—, decolorizing with, 592.  
—, delustring using, 2179.  
Silicic acid gel, cellulose acetate saponified by, 501.  
Silicic esters, 1908, 1982.  
Silicon, acetic anhydride mfr. using, 626.  
Silicon carbon, acetic anhydride mfr. using, 626.  
Silicon fluoride, cellulose acetate delustred by, 895.  
Silicon oxide, cellulose ester delustred by, 270.  
—, cellulose ester weighted by, 270.  
—, cellulose ether delustred by, 270.  
—, cellulose ether weighted by, 270.  
—, delustring with, 2169, 2179.

- Silicon tetrachloride, 1674, 1886.  
 —, acetic anhydride made using, 667.  
 —, cellulose ether made using, 243.  
 Silicotungstic acid, 2417.  
 —, catalyst, 1035.  
 —, lakes made with basic dye and, 131.  
 Silk, artificial, cellulose acetate for, 1690.  
 —, —, cloth, tracing, made using, 2542.  
 —, —, dyeing, 497.  
 —, —, staple, mfr. of, 2371.  
 —, —, *see also Filaments, artificial*.  
 —, Auramine dyeing, 665.  
 —, benzoic acid dyeing, 665.  
 —, benzylcellulose, matt finish on, 2195.  
 —, carbonizing, 105.  
 —, celluloid impregnated, 331.  
 —, cellulose acetate and, dyeing, 665.  
 —, —, fabric of, 952.  
 —, —, dyeing, 1009.  
 —, cellulose acetate impregnated, 331.  
 —, —, racket strings made of, 638.  
 —, cellulose acetate with, 560.  
 —, —, printing on, 1000.  
 —, cellulose ester woven with, 259.  
 —, cellulose ether and, fabric of, 2379.  
 —, cellulose ether woven with, 259.  
 —, cross-dyeing, 691, 2313.  
 —, degumming, 259, 685, 723, 748, 1041, 2309, 2310, 2358.  
 —, dyeing, 934, 1009.  
 —, ethylcellulose, matt finish on, 2195.  
 —, fabric, pile, containing, 951, 952, 2358.  
 —, fraying, preventing, 2359.  
 —, gut, substitute, made of cellulose acetate impregnated, 638.  
 —, instrument strings made of cellulose acetate impregnated, 638.  
 —, Malachite green dyeing, 665.  
 —, Martius yellow dyeing, 665.  
 —, 2-oxyisonaphthalic acid dyeing, 665.  
 —, Picocarmin K for identifying, 731.  
 —, printing on, 2344.  
 —, ravelling, preventing, 2359.  
 —, sizing, 259, 2309.  
 Silk, sodium *o*-cresotinate dyeing, 665.  
 —, synthetic, acetone in mfr., 1881.  
 —, ultra-violet radiation through, 657.  
 —, weaving, 2358.  
 Silkone, cellulose acetate dyed using, 711.  
 Silk ponceau G, cellulose acetate dyed by, 2480.  
 Silk yarn shrinkage, reducing, 2373.  
 Silver, acetic acid made using, 652.  
 —, catalyst in acetaldehyde mfr., 1023.  
 —, cellulose ether impregnated with, 2480.  
 —, colloidal, mfr., 2447.  
 —, imitation, mfr. of, aluminum in, 457.  
 —, —, —, cellulose acetate in, 457.  
 —, —, —, copal in, 457.  
 —, —, —, mastic in, 457.  
 —, —, —, resins in, 457.  
 —, —, —, sandarac in, 457.  
 —, leather substitute of cellulose acetate and, 760.  
 Silver amyl phthalate, 1975.  
 Silver butyl phthalate, 1975.  
 Silver carbonate, 1482.  
 —, acetic anhydride made using, 737.  
 Silver cellulosexanthacetate, 1762.  
 Silver chloride, acetic anhydride made using, 737.  
 Silver chromate, catalyst in acetic acid mfr., 976.  
 Silver emulsion, mfr. of, cellulose ether for, 86.  
 Silver ethyl phthalate, 1975.  
 Silver hydroxide, acetic anhydride made using, 737.  
 Silver iodide number, 2657.  
 Silver methyl phthalate, 1975.  
 Silver nitrate, 2447.  
 —, electric conductor made using, 2439.  
 —, photo-emulsion containing, 356.  
 Silver oxide, 2, 205.  
 —, catalyst in acetaldehyde mfr., 781.  
 —, catalyst in acetic acid mfr., 781.  
 Silver peroxide, 2316.  
 —, cellulose acetate discharge effects produced by, 745.  
 —, discharge effect on, cellulose ether produced using, 175.

- Silver propyl phthalate, 1975.  
Silver selenide, mfr., 2447.  
Silver sulfide, screen, fluorescent, made using, 2541.  
Silver telluride, mfr., 2447.  
Silver vanadate, catalyst in acetaldehyde mfr., 671, 781, 1023.  
—, catalyst in acetic acid mfr., 781, 976.  
Silvery, producing effect, 2362.  
Similoid, 2568.  
Sinapin, 2446.  
Sinistrin, 1506.  
Sinomenine, methyl sulfate in mfr. of, 1264.  
Sinur, 2568.  
Sipalin, 1992.  
Sipalin AOC, 1992.  
—, *see also* *Dimethylcyclohexanyl adipate*.  
Sipalin AOM, 1992.  
—, *see also* *Dimethylcyclohexanyl adipate*.  
Sipalin MOM, 1992.  
—, plasticizing value, 1794.  
—, *see also* *Dimethylcyclohexanyl methyl adipate*.  
Sipalin special, plasticizing value, 794.  
Size, albuminous, 2139.  
—, benzene as, 1004.  
—, calcium resinate as, 1003.  
—, carboxyalkylcellulose esters for, 1398.  
—, cellulose ether, 2136.  
—, cellulose phenylethylthiourethane for, 1643.  
—, chlorhydroxypropylcellulose for, 1398.  
—, epichlorhydrin for, 1398.  
—, ethylaminocellulose acetate for, 1398.  
—, ethylcellulose for, 2136.  
—, hydroxyalkylaminocellulose for, 1398.  
—, hydroxyalkylcellulose for, 1398.  
—, hydroxyethylaminocellulose for, 1398.  
—, lard as, 1004.  
—, methyl cellulose for, 2136.  
—, oxyalkylcellulose for, 1398.  
—, propyloxyethylaminocellulose for, 1398.  
—, proteid, 2139.  
—, resinate, 2141.  
—, thionyl chloride for, 1398.  
—, xylene as, 1004.  
—, zinc oleate as, 1004.  
Sizing, 61, 106, 2136, 2359.  
—, carboxy-alkyl cellulose ether for, 263.  
—, hydroxy-alkyl cellulose ether for, 263.  
—, methylcellulose as, 258.  
—, vinyl acetate for, 263.  
—, vinyl chloracetate for, 263.  
Skatole, amines solvent for, 2013.  
Skin, coating, celluloid for, 430.  
—, —, cellulose acetate for, 430.  
—, dyeing, *p*-aminodiphenylamine for, 715.  
—, —, aniline for, 715.  
—, —, *p*-phenylenediamine for, 715.  
—, —, *o*-toluidine for, 715.  
—, impregnating, cellulose acetate for, 431.  
—, protecting, aesculin for, 2541.  
—, —, benzylcellulose for, 297, 1570, 2463.  
—, —, cellulose ether for, 2462.  
—, —, ethylcellulose for, 297.  
—, —, naphtholsulfonic acid for, 2541.  
—, —, naphthylaminè-sulfonic acid for, 2541.  
—, —, quinine sulfate for, 2541.  
—, —, sodium-2-naphthol-3,6-disulfonate for, 2541.  
—, *see also* *Hides*.  
Slag-wool, lacquer and cellulose ether with, 153.  
—, plaster and cellulose ether with, 153.  
—, putties and cellulose ether with, 153.  
*Slaked lime, see Calcium hydroxide*.  
Slate, lacquer and cellulose ether with, 153.  
—, plaster and cellulose ether with, 153.  
—, putties and cellulose ether with, 153.  
Slate meal, emulsion containing, 2453.  
—, lacquer containing, 2428.  
—, plastic containing, 983.  
Slide, lantern, cellulose acetate in mfr., 1023.  
—, —, mfr., 1096.  
Slipping, preventing, 105, 2144.  
Smaline, waterproofing, 139.  
Smaragdin, 486.  
Smith apparatus, 844.  
*Smokeless powder, see Powder*.  
*Smyrna cotton, see Cotton, Smyrna*.

- Soap, alcohol, solid, made using, 486, 2480.
- , amines solvent for, 2013.
- , board made using, 725.
- , cellulose, alkylated, as base for mfr. of, 87.
- , cellulose acetate delustred by, 600.
- , cellulose acetate dyed using, 547, 622, 649.
- , cellulose acetate electrified remedied by, 464.
- , cellulose acetate film cast on support of, 478.
- , cellulose acetate waterproofed by, 448.
- , cellulose ether emulsified in presence of, 2452.
- , cellulose ether in, mfr., 2449.
- , cellulose ether non-solvent, 2091.
- , cellulose purified by, 1411.
- , container for, cellulose acetate, 545.
- , delustring with, 2181, 2183.
- , dextrin, alkylated, as base for mfr. of, 87.
- , dispersing agent, 2209.
- , dyeing in presence of, 2270.
- , guanin purified by, 2617.
- , ink, copying, stains removed by, 2552.
- , insulating made using, 725.
- , inulin, alkylated, as base for mfr. of, 87.
- , inulin ether in, 1161.
- , lichenin, alkylated, as base for mfr. of, 87.
- , metallic, filament, hollow, spun, using, 2367.
- , panel made using, 725.
- , pencil stains removed by, 2552.
- , ribbon, typewriter, stains removed by, 2552.
- , silk degummed with, 748.
- , size containing, 2309.
- , solubilizing agent, 2212.
- , starch, alkylated, as base for mfr. of, 87.
- , stencil sheet made using, 664.
- , sulfonated, silk degummed with, 748.
- Sock, cellulose acetate in mfr., 989.
- Sodacellulose*, see *Alkalicellulose*.
- Sodamide, 910.
- , cellulose treated with, 1431.
- Sodamide, ethyl acetoacetate made using, 1931.
- , water combined with, 111.
- Sodium, ethylacetoacetate made using, 1931.
- Sodium abietate, sizing with, 2141.
- Sodium acetate, 1137.
- , acetating in presence of, 359.
- , acetation with, 317, 331.
- , acetic acid from, 801.
- , acetic acid concentrating using, 721.
- , acetic acid recovered using, 730.
- , acetic anhydride made using, 497, 506, 522, 562, 565, 581, 605, 633, 647, 845.
- , acetic anhydride, mfr. byproduct, 522.
- , acetone made using, 772.
- , acetylating cellulose in presence of, 451.
- , acetylating in presence of, 1057.
- , cellulose acetate dyed in presence of, 570.
- , cellulose acetate hydrated in presence of, 356.
- , cellulose acetylated with, 1058.
- , cellulose acetate hydrolyzed by, 411.
- , cellulose acetate ironing temperature reduced by, 933.
- , cellulose acetate luster modified by, 609.
- , cellulose acetate plastifier, 570.
- , cellulose acetate precipitant, 49.
- , cellulose acetate relustrd by, 636.
- , cellulose acetate saponified by, 501.
- , cellulose acetate shrinkage prevented by, 804.
- , cellulose acetate stabilizer, 694.
- , cellulose ether dehydrated using, 2337.
- , cellulose ether precipitant, 49, 2086.
- , cellulose ether softener, 2218.
- , cellulose pretreated with, 773.
- , cellulose purified by, 1408.
- , crepe effect produced by, 935, 2334.
- , ethylidene diacetate purified using, 946.
- , film, non-static, made using, 661.
- , formic acid concentrating using, 721.

- Sodium acetate, mfr., 793.  
 —, porosity cellulose acetate increased by, 1007.  
 —, printing, reserve, color, using, 2326.  
 —, relustring with, 216.  
 —, reserving agent of, 198.  
 —, sheen of cellulose acetate augmented by formaldehyde and, 679.  
 —, sulfuric acid neutralizant, 896.  
 —, wetting agent, 2210.  
 —, zinc acetate made using, 772.  
 Sodium aceto-hydrogen-succinate, mfr., 2641.  
 Sodium acetylsulfate, 382.  
 Sodium acid sulfate, catalyst in cellulose acetate mfr., 452, 523.  
 —, cellulose ether viscosity reduced by, 300, 1360.  
 —, ethylcellulose viscosity reduced by, 300.  
 Sodium acid sulfite, fabric printed on using, 2329.  
 Sodium alcoholate, 1946.  
 —, cellulose acetate saponified by, 850.  
 —, ethyl alcohol made using, 863.  
 —, mfr., 597.  
 —, —, ethyl formate in, 597.  
 —, —, methyl formate in, 597.  
 Sodium alginate, cellulose acetate addition for lacquer, 571.  
 Sodium alizarin sulfonate, amines solvent for, 2013.  
 Sodium aluminate, cellulose acetate hydrolyzed by, 775.  
 —, cellulose acetate saponified by, 501.  
 —, cellulose mercerized by, 9.  
 Sodium aluminum lactate, loading with, 2152.  
 Sodium amalgam, cellulose acetate etherified in presence of, 1434.  
 —, cellulose benzoate etherified in presence of, 1434.  
 —, cellulose butyrate etherified in presence of, 1434.  
 —, cellulose formate etherified in presence of, 1434.  
 —, cellulose propionate etherified in presence of, 1434.  
 Sodium *b*-aminoanthraquinone-N-methyl sulfonate, cellulose ether dyed by, 112.  
 —, ethylcellulose dyed by, 112.  
 Sodium 1-amino-4-hexahydroanilidoanthraquinone-2-sulfonate, 2223.  
 —, cellulose ester dyed with, 197.  
 —, cellulose ether dyed with, 197.  
 Sodium 1-amino-4-*p*-tolylaminoanthraquinone-2-mercaptan, cellulose ether dyed using, 2256.  
 Sodium ammonium phosphate, silk degummed using, 685.  
 Sodium anilinemethanesulfonate, 1088.  
 —, cellulose acetate dyed using, 831.  
 —, cellulose ether dyed using, 2251.  
 Sodium anilinemethyl-omega-sulfonate, cellulose acetate dyed using, 540.  
 Sodium *b*-anthraquinonemonosulfonate, wetting agent, 2208.  
 Sodium anthraquinonyl-*b*-mercapto propionate, cellulose ether dyed with, 258.  
 Sodium antimonates, catalyst, 864.  
 Sodium arsenate, catalyst, 864.  
 Sodium benzeneazo-3,6-disulfo-8-amino-1-naphthol-7-azodiphenylazo-*m*-phenylenediamine, 2232.  
 Sodium benzenesulfonate, acetic acid mfr. using, 633.  
 Sodium benzoate, 2139.  
 —, acetylating in presence of, 1057.  
 —, alcohol, solid, made using, 2481.  
 —, amines solvent for, 2013.  
 —, camphor substitute, 2052.  
 —, cellulose acetate stabilizer, 694.  
 Sodium benzylanilinesulfonate, 2240.  
 Sodium benzylate, 1749.  
 —, cellulose ester etherified in presence of, 1434.  
 Sodium benzylchloridesulfonate, 1602.  
 —, mfr. of, 123.  
 Sodium benzyl-chloride-*o*-sulfonate, 1602, 1682.  
 Sodium benzyl-chloride-*p*-sulfonate, 1602, 1682.  
 —, mfr. of, 123.  
 Sodium benzyl-naphthalene sulfonate, dimethylcellulose emulsifier, 119.  
 Sodium benzyl succinate, 1949.  
 Sodium bicarbonate, cellulose ether dyed using, 2271.

- Sodium bicarbonate, cellulose nitrate viscosity reduced by, 918.  
—, dental plate containing, 2537.  
—, glycols made using, 489.  
Sodium bichromate, 156, 190, 267, 2241, 2315.  
—, benzylcellulose treated with, 1561.  
—, cellulose acetate dyed using, 606, 744.  
—, cellulose ether dyed using, 2304.  
—, oxidizing with, 190.  
Sodium bisulfate, acetic anhydride mfr. using, 632.  
—, carbonizing with, 2205.  
—, catalyst in cellulose acetate mfr., 451, 523, 958.  
—, catalyst in cellulose acetation, 979.  
—, cotton carbonized with, 951.  
—, linen carbonized with, 951.  
Sodium bisulfite, printing, color, using, 2327.  
Sodium borate, 2430.  
—, cellulose acetate saponified by, 501.  
—, cellulose acetate soaped by, 500.  
—, sheen of cellulose acetate augmented by formaldehyde and, 679.  
—, silk degummed with, 723, 748.  
Sodium boroformate, 1022.  
Sodium bromide, benzyl chloride in mfr., 1297.  
—, cellulose acetate solubility in, 574.  
—, cellulose formate solvent, 463, 1799.  
Sodium butylaminoacetate, softener, 1069.  
Sodium butylaminonaphthalene sulfonate, cellulose ether emulsified by, 117.  
Sodium butylglyceryl phthalate, cellulose acetate plastifier, 1016.  
—, mfr., 1016.  
Sodium butylnaphthalenesulfonate, 192, 193, 1676.  
—, benzylcellulose emulsified by, 1567.  
—, benzylcellulose emulsion containing, 1581.  
—, benzylcellulose plastifier, 1576.  
—, cellulose acetate dyed using, 676.  
—, cellulose ether dyed using, 2311.  
Sodium butylnaphthalenesulfonate, cellulose ether emulsified by, 117.  
—, cellulose ether solvent, 239.  
—, cellulose nitrate solvent, 239.  
—, dimethylcellulose emulsifier, 119.  
—, emulsification using, 235, 2451.  
—, emulsion containing, 2453, 2456.  
—, ethylbenzylcellulose plasticizer, 236.  
—, ethylbutylcellulose plasticizer, 236.  
—, ethylcellulose plasticizer, 236.  
—, paint containing, 2456.  
—, plastic made using, 2573.  
—, wetting out agent, 1375.  
Sodium butylsulfanilate, cellulose ether emulsified by, 117.  
Sodium carbazosulfonate, cellulose ether dyed using, 2284.  
Sodium carbonate, acetylating cellulose in presence of, 451.  
—, alkylating in presence of, 301.  
—, ant-acid in lacquer, 370.  
—, benzylcellulose purified by, 1541, 1542.  
—, cellulose acetate delustred using, 1013.  
—, cellulose acetate dyed in presence of, 686.  
—, cellulose acetate dyed using, 745.  
—, cellulose acetate identified using, 730.  
—, cellulose acetate saponified by, 810, 1069.  
—, cellulose acetate soaped by, 500.  
—, cellulose ether dyed using, 2300.  
—, cellulose etherified in presence of, 1433, 1451, 1452.  
—, delustring with, 2192.  
—, dyeing in presence of, 2270.  
—, mordanting cellulose ether with, 226.  
—, paper waterproofed by, 645.  
—, safe ironing temperature raised by, 2165.  
—, silk degummed with, 723.  
—, textiles waterproofed by, 645.  
—, weighting cellulose ether with, 226.  
Sodium casein, linen waterproofed by, 393.  
Sodium caseinate, 2057.  
—, stencil sheet made using, 2495.



- Sodium catecholate, cellulose acetate dyed using, 606, 2243.  
*Sodium cellulose*, see *Alkalicellulose*.  
 Sodium cellulose aceto-hydrogen-phthalate, mfr., 2641.  
 Sodium cellulose diacetate, dressing agent, 2215.  
 —, softener, 2215.  
 Sodium cellulose glycollate, 1721.  
 Sodium cellulose glythalate, 2640.  
 —, mfr., 2641.  
 Sodium cellulose xanthacetate, 1642, 1646, 1761.  
 Sodium cetyl xanthate, 1076.  
 Sodium chloracetate, 829, 1761, 1762.  
 —, mfr., 815.  
 Sodium monochloracetate, 88, 824.  
 Sodium chlorate, 2241, 2316.  
 —, cellulose acetate dyed using, 531, 606.  
 —, cellulose ether dyed using, 2299, 2304, 2305.  
 —, cellulose ether dyeing assistant, 2222.  
 —, discharge, 2319.  
 —, discharge effect with, 2347.  
 —, fabric printing using, 279.  
 —, printing, reserve, color, using, 2326.  
 —, tetrachlorethane solidified in, 439.  
 Sodium 1'-chlor-1,3-dimethylbenzenesulfonate, 1603.  
 Sodium 1-chlor-1,3-dimethylbenzenesulfonate-4, 1757.  
 Sodium chloride, 1559.  
 —, acetic anhydride mfr. using, 522.  
 —, artificial sponge made using, 425.  
 —, assistant in cellulose acetate dyeing, 528.  
 —, benzylcellulose isolated with, 109.  
 —, benzylcellulose purified by, 1541, 1542.  
 —, benzylcellulose solvent, 154.  
 —, cellulose acetate coagulant, 447.  
 —, cellulose acetate delustring prevented by, 635.  
 —, cellulose acetate dyed in presence of, 510.  
 —, cellulose acetate lacquer containing, 599.  
 Sodium chloride, cellulose acetate luster modified by, 609.  
 —, cellulose acetate luster preserved by, 632, 714.  
 —, cellulose acetate precipitant, 49.  
 —, cellulose acetate protected by, in mercerizing, 616.  
 —, cellulose acetate relustred by, 608, 636.  
 —, cellulose acetate saponified by, 501.  
 —, cellulose acetate shrinkage prevented by, 804.  
 —, cellulose ester delustred by, 221.  
 —, cellulose ether made with, 130.  
 —, cellulose ether delustred by, 221.  
 —, cellulose etherified in presence of, 1440.  
 —, cellulose ether precipitant, 49, 2086.  
 —, cellulose ether spinning bath containing, 2082.  
 —, cellulose ethylated in presence of, 258.  
 —, cellulose formate solvent, 463.  
 —, cellulose treated with, 1137.  
 —, delustring with, 2194.  
 —, dyeing in presence of, 2270.  
 —, esterifying cellulose in presence of, 682.  
 —, etherifying cellulose in presence of, 1448, 1459.  
 —, influence of on cellulose acetate saponification, 969.  
 —, lustre preserved by, 2172, 2173.  
 —, relustring with, 216.  
 Sodium 1'-chlor-1-methylbenzenesulfonate, 1603.  
 Sodium 1-chlor-1-methylbenzenesulfonate-2, 1757.  
 Sodium 1-chlor-1-methylbenzenesulfonate-4, 1757.  
 Sodium 1-chlor-4-naphthalenesulfonate, wetting agent, 2208.  
 Sodium *p*-chlorphenate, cellulose acetate dyed using, 606.  
 —, dyeing with, 2243.  
 Sodium *p*-chlorphenoxide, cellulose acetate dyed in presence of, 607.  
 Sodium chromate, cellulose acetate luster modified by, 609.  
 —, methylcellulose for dispersing, 2478.  
 Sodium citrate, 1094, 1559.  
 —, cellulose ether mordant, 142.  
 —, cellulose nitrate solvent, 1893.  
 —, creping fabric using, 1094.

- Sodium citrate, scroop imparted by, 2203.  
—, sheen of cellulose acetate augmented by formaldehyde and, 679.  
Sodium cresolate, cellulose acetate dyed using, 606, 2243.  
—, cellulose acetate saponified by, 832.  
—, cellulose ether dyed using, 2266.  
—, cellulose formylacetate saponified by, 832.  
—, cellulose phosphoacetate saponified by, 832.  
—, cellulose sulfacetate saponified by, 832.  
—, silk degummed with, 748.  
Sodium *p*-cresolate, 219.  
Sodium *o*-cresotinate, cellulose acetate dyed using, 665, 2235.  
—, silk dyed using, 665.  
Sodium cresylate, acetone recovered by, 2126.  
Sodium cyanate, cellulose acetate swelling agent, 636.  
—, cellulose ether solvent, 141.  
Sodium 1,4-diaminoanthraquinone-*N*-methyl sulfonate, cellulose ether dyed by, 112, 2275.  
—, ethylcellulose dyed by, 112.  
Sodium diaminoanthrarufin-2,6-disulfonate, cellulose acetate dyed using, 859.  
—, cellulose ether dyed using, 2258.  
Sodium diaminonaphthylamine sulfonate, cellulose ether emulsified by, 117.  
Sodium dibutyl-naphthalenesulfonate, 193.  
—, emulsion containing, 2467.  
—, tanning with, 2467.  
Sodium dibutylsulfanilate, cellulose ether emulsified by, 117.  
—, wetting out agent, 1375.  
Sodium dicresyl phosphate, cellulose acetate dyed using, 596.  
—, cellulose ether dyeing assistant, 2222.  
Sodium diethylmetanilate, cellulose ether emulsified by, 117.  
Sodium dihydrogen phosphate, 135.  
—, cellulose ether dehydrated using, 2337.  
Sodium 1,5-dihydroxy-4,8-diaminoanthraquinone-*N*-methyl-sulfonate, cellulose ether dyed using, 112, 2275.  
Sodium 1,5-dihydroxy-4,8-diaminoanthraquinone-*N*-methylsulfonate, ethylcellulose dyed by, 112.  
Sodium dihydroxytartrate, cellulose acetate dyed using, 683.  
*Sodium o*-dinitro-cresylate, see *Antinonin*.  
Sodium dioxide, action cellulose on, 894.  
Sodium diphenylaminosulfonate, cellulose ether dyed using, 2284.  
—, wetting agent, 2208.  
Sodium diphenyldisazobisresorcinol, 2232.  
Sodium ethoxide, 1932.  
—, cellulose acetate hydrolyzed by, 744.  
Sodium ethylate, 275, 1194, 1695, 1720, 1749, 1856, 1942.  
—, cellulose ester etherified in presence of, 1434.  
—, cellulose treated with, 1431.  
—, ethyl acetoacetate made using, 1020, 1931.  
—, water combined with, 111.  
Sodium ethylbenzylanilinesulfonate, cellulose ether dyed using, 2276.  
Sodium ethylsulfate, 38, 1259, 2059.  
—, cellulose acetate hydrated by, 400.  
—, cellulose acetate solubility modified by, 355.  
—, cellulose ethylated by, 21, 1441.  
Sodium formaldehydesulfoxylate, 2240, 2316.  
—, discharge effects on cellulose acetate with, 613.  
—, pattern effect using, 2344.  
Sodium formate, 275.  
—, acetic acid concentrating using, 721.  
—, cellulose acetate precipitant, 49.  
—, cellulose ether precipitant, 49.  
—, formic acid from, 526.  
—, formic acid concentrating using, 721.  
—, mfr., 793.  
—, sheen of cellulose acetate augmented by formaldehyde and, 679.  
Sodium glycerophosphate, hide tanned using, 2456.  
Sodium glycollate, 187, 1722, 1724.  
—, cellulose acetate organosols made using, 846.  
—, cellulose acetate protected by, in mercerizing, 616.

- Sodium glycollate, cellulose ether mordant, 142.  
—, delustring by, 283, 286, 2184.  
—, matt effect produced by, 286.  
Sodium glycol-lignin, 1629.  
Sodium guaiacolate, cellulose acetate dyed using, 606, 2243.  
Sodium hydracrylate, 187, 1724.  
Sodium hydrogen sulfite, reserving agent of, 198.  
Sodium hydrosulfide, denitrating with, 353.  
Sodium hydrosulfite, 219.  
—, cellulose acetate preserved by, 714.  
—, discharging with, 760.  
—, luster preserved by, 2173.  
Sodium hydroxide, 1222.  
—, benzylcellulose viscosity reduced by, 140, 1558.  
—, cellophane diffusion in, 913.  
—, cellulose acetate coagulant, 447.  
—, cellulose acetate delustred using, 1013.  
—, cellulose acetate diffusion in, 913.  
—, cellulose acetate dyed using, 745.  
—, cellulose acetate hydrolyzed by, 775.  
—, cellulose acetate saponified by, 810, 1069.  
—, cellulose acetate soaped by, 500.  
—, cellulose etherified in presence of, 1433.  
—, cellulose pretreated with, 1428.  
—, composition, 1222.  
—, delustring with, 2192.  
—, dialyzing, 1246.  
—, ethyl alcohol made using, 863.  
—, recovery, 1245.  
—, silk degummed with, 748.  
Sodium *m*-hydroxybenzoate, camphor substitute, 2052.  
Sodium hydroxycarboxylate, delustring, 283.  
Sodium hypochlorite, cellulose acetate dyed using, 606.  
—, cellulose treated with, 1141.  
Sodium hypophosphite, film made using, 2515.  
Sodium hyposulfite, cellulose acetate emulsion containing, 128.  
—, cellulose ether emulsion containing, 128.  
Sodium indigo sulfonate, amines solvent for, 2013.  
Sodium iodide, cellulose acetate solubility in, 574.  
—, cellulose formate solvent, 1799.  
—, starch acetylating in presence of, 837.  
Sodium isocyanate, cellulose acetate swelling agent, 636.  
—, cellulose ether solvent, 141.  
Sodium isothiocyanate, cellulose ether solvent, 97, 141.  
Sodium lactate, 187, 1094, 1724.  
—, acetylating in presence of, 1057.  
—, cellulose ether mordant, 142.  
—, cellulose nitrate solvent, 1893.  
—, delustring, by, 283, 286, 2184.  
—, electric charge in fiber reduced by, 922.  
—, matt effect produced by, 286.  
—, pencil ornamenting using, 843.  
—, sheen of cellulose acetate augmented by formaldehyde and, 679.  
Sodium leucoindigosulfonate, fabric printing using, 279.  
Sodium levulinate, cellulose nitrate solvent, 1893.  
Sodium ligninsulfonate, cellulose acetate dyed using, 649.  
—, cellulose ether dyed using, 2273.  
—, dispersing agent, 2209.  
—, printing, reserve, color, using, 2327.  
Sodium metaphosphate, acetic anhydride made using, 605, 625, 769.  
—, catalyst, 802.  
Sodium methoxide, acetic acid mfr. using, 633.  
—, cellulose acetate hydrolyzed by, 744.  
Sodium methoxyacetate, 864.  
Sodium 1-methylaminoanthraquinone-4-benzylaminosulfonate, cellulose ester colored with, 251.  
—, cellulose ether colored with, 251.  
Sodium methylanilinesulfonate, cellulose ether dyed using, 2265.  
Sodium methylate, 275, 1749.  
—, cellulose ester etherified in presence of, 1434.  
Sodium methylbenzylanilinesulfonate, cellulose ether dyed using, 2276.  
Sodium *N*-methyl-*N*-benzylaniline-sulfonate, cellulose ether dyed using, 2276.

- Sodium mono-butyl-naphthalene sulfonate, lacquer containing, 2420.
- Sodium monochloracetate, 1641, 1642, 1721, 1722, 1763, 1768.
- Sodium naphthenate, benzene solvent of, 107.
- , cellulose ether dyed in presence of, 113.
- , silk sized using, 259.
- , size containing, 2309.
- , sizing with, 107, 2141.
- , solubilizing agent, 2212.
- , toluene solvent of, 107.
- , turpentine oil solvent of, 107.
- , xylene solvent of, 107.
- Sodium naphthene sulfonate, cellulose ether dyed in presence of, 113.
- Sodium naphtholate, cellulose acetate dyed using, 606.
- , cellulose ether dyed using, 2266.
- Sodium *a*-naphtholate, cellulose acetate dyeing using, 2243.
- Sodium *b*-naphtholate, cellulose acetate dyeing using, 2243.
- Sodium 2-naphthol-3.6-disulfonate, sunburn, protecting against by, 2541.
- Sodium 2-naphthol-6.8-disulfonate, 2450.
- Sodium naphtholsulfonate, catalyst in cellulose acetation, 342.
- Sodium *b*-naphthoxide, cellulose acetate dyed in presence of, 607.
- Sodium 2-naphthylamine-6-sulfonate, cellulose ether dyed using, 2258.
- Sodium nitrate, 531, 2244.
- , cellulose acetate dyed using, 531, 638.
- , cellulose acetate luster modified by, 609.
- , cellulose ether dyeing assistant, 2222.
- , influence of on cellulose acetate saponification, 969.
- , *see also Niter*.
- Sodium nitrite, benzylcellulose treated with, 1561.
- Sodium *p*-nitrobenzenedisazoamino-sulfobenzylaminothiocresol, 2232.
- Sodium *m*-nitrobenzenesulfonate, 156, 190, 1086, 2241, 2314, 2315.
- , oxidizing with, 190.
- Sodium nitroferri cyanide, see Sodium nitroprusside.*
- Sodium *p*-nitrophenylantidiazotate, amines solvents for, 2013.
- Sodium oleate, benzylcellulose treated with, 1562.
- , cellulose acetate ironing temperature reduced by, 933.
- , cellulose acetate stabilizer, 694.
- , cellulose ether emulsifier, 2083.
- , cellulose ether fabric treated with, 106.
- , cellulose ether softener, 2080, 2094.
- , emulsifying with, 267.
- , filament, hollow, made using, 805, 641.
- , —, —, spun, using, 2368.
- , filament cleaned by, 257.
- , film cleaned by, 257.
- , ribbon cleaned by, 257.
- , silk sized using, 259.
- , size containing, 2309.
- , softener for cellulose ether, 164.
- , solvent, 1796.
- , stencil sheet made using, 2495.
- , thread cleaned by, 257.
- , wetting agent, 2207.
- Sodium oleosulfonate, cellulose ether softener, 2080.
- Sodium oxalate, cellulose acetate luster modified by, 609.
- , cellulose acetate precipitant, 49.
- , cellulose ether precipitant, 49.
- , cellulose nitrate solvent, 1893.
- , scroop imparted by, 2203.
- , sheen of cellulose acetate augmented by formaldehyde and, 679.
- Sodium oxide, cellulose treated with, 1431.
- , ethyl alcohol made using, 863.
- Sodium oxybenzenesulfonate, cellulose purified by, 1409.
- Sodium *b*-oxynaphthoate, cellulose ether dyed using, 2282.
- Sodium palmitate, benzylcellulose treated with, 1562.
- , cellulose ether emulsifier, 2083.
- , cellulose ether fabric treated with, 106.
- , cellulose ether softener, 2094.
- , dyeing in presence of, 2270.
- Sodium palmitosulfonate, cellulose ether precipitant, 2086.
- , cellulose ether softener, 2080.
- Sodium palmitylsarcosine, softener, 1069.
- Sodium perborate, 219.

- Sodium perborate, cellulose ether dyed using, 2244, 2255.  
—, cellulose pretreated with, 1014.  
—, cellulose purified by, 1411.  
Sodium perchlorate, catalyst in cellulose acetate mfr., 1004.  
Sodium peroxide, 2316.  
—, alkalicellulose oxidized by, 1229.  
—, cellulose acetate discharge effects produced by, 745.  
—, cellulose purified by, 1411.  
—, discharge effect on, cellulose ether producing using, 175.  
Sodium phenate, cellulose acetate dyeing using, 2243.  
—, cellulose acetate saponified by, 832.  
—, cellulose formylacetate saponified by, 832.  
—, cellulose phosphoacetate saponified by, 832.  
—, cellulose sulfacetate saponified by, 832.  
—, *see also Sodium phenolate*.  
Sodium phenolate, acetone recovered by, 2126.  
—, cellulose acetate delustred by, 616.  
—, cellulose acetate dyed using, 606, 723.  
—, cellulose ether dyed using, 2266.  
—, cotton dyed using, 723.  
—, delustring with, 2187.  
—, safe ironing temperature raised by, 2165.  
—, silk degummed with, 748.  
Sodium phenolsulfonate, 1871.  
—, catalyst in cellulose acetation, 342.  
Sodium phenoxide, cellulose acetate dyed using, 745, 607.  
—, *see also Sodium phenolate*.  
Sodium phosphate, 2430.  
—, acetic anhydride mfr. using, 753.  
—, benzylcellulose treated with, 1561.  
—, cellulose acetate preserved by, 714.  
—, cellulose ether weighted with, 173.  
—, crepe effect produced by, 935.  
—, loading with, 2147.  
—, luster preserved by, 2172, 2173.  
Sodium phosphate, sheen of cellulose acetate augmented by formaldehyde and, 679.  
—, silk degummed with, 748.  
—, tribasic, cellulose acetate dyed in presence of, 580.  
*tri*Sodium phosphate, cellulose acetate saponified by, 746.  
Sodium phthalate, alcohol, solid, made using, 2481.  
Sodium propionate, 382.  
Sodium *b*-*iso*-propylnaphthalenedisulfonate, 2104.  
Sodium propyl-*b*-naphthalenesulfonate, 2104.  
Sodium *isopropyl* naphthalenesulfonate, 2035.  
—, cellulose ether emulsified by, 117.  
—, dimethylcellulose emulsifier, 119.  
—, emulsification using, 2451.  
—, wetting out agent, 1375.  
Sodium pyrosulfate, acetic anhydride mfr. by-product, 522.  
—, acetic anhydride mfr. using, 632.  
—, methoxyacetic anhydride mfr. from, 1049.  
Sodium quinolate, cellulose acetate dyed using, 606, 2243.  
—, cellulose ether dyed using, 2266.  
Sodium quinoxide, cellulose acetate dyed in presence of, 607.  
Sodium resinate, benzene solvent of, 107.  
—, size containing, 2309.  
—, sizing with, 107, 2141.  
—, solubilizing agent, 2211.  
—, toluene solvent of, 107.  
—, turpentine oil solvent of, 107.  
—, xylene solvent of, 107.  
Sodium resorcinolate, cellulose acetate saponified by, 832.  
—, cellulose formylacetate saponified by, 832.  
—, cellulose phosphoacetate saponified by, 832.  
—, cellulose sulfacetate saponified by, 832.  
Sodium resorcinolate, cellulose acetate dyed using, 606, 2243.  
—, cellulose ether dyed using, 2266.  
Sodium ricinoleate, 2242.  
—, cellulose ether emulsifier, 2083.  
—, cellulose ether dyed using, 2268.

- Sodium ricinoleate, printing cellulose ether using, 2323.  
—, solubilizing agent, 2211.  
—, wetting agent, 2207.  
*Sodium ricinosulfonate, see Sodium sulforicinate.*  
Sodium salicylate, 1793, 1832, 2430.  
—, alcohol, solid, made using, 2481.  
—, camphor substitute, 2052.  
—, cellulose acetate stabilizer, 694.  
*Sodium salt of helianthine, see Methyl orange.*  
Sodium sebacate, solid alcohol containing, 364.  
Sodium silicate, alcohol solidified using, 486.  
—, cellulose acetate hydrolized by, 775.  
—, cellulose acetate saponified by, 501, 1069.  
—, cellulose acetate soaped by, 500.  
—, cellulose ether weighted with, 173.  
—, glass, laminated, made using, 2588.  
—, glass sheets joined using, 836.  
—, inflammability reduced by, 2527.  
—, safe ironing temperature raised by, 2165.  
—, sheen of cellulose acetate augmented by formaldehyde and, 679.  
—, silk degummed with, 723, 748.  
—, sizing with, 2141.  
—, *see also Water glass.*  
Sodium stannate, 2163.  
—, benzylcellulose mordanted by, 137.  
—, benzylcellulose treated with, 1587.  
—, cellulose acetate dyed in presence of, 778.  
—, cellulose ether weighted using, 2638.  
—, ethylcellulose mordanted by, 137.  
—, fireproofing with, 572.  
—, loading with, 2147.  
—, weighting cellulose acetate with, 961.  
Sodium stearate, 984.  
—, alcohol solidified using, 486.  
—, benzylcellulose treated with, 1562.  
—, cellulose acetate dyed in presence of, 686.  
Sodium stearate, cellulose acetate ironing temperature reduced by, 933.  
—, cellulose ether dyed using, 2244.  
—, cellulose ether fabric treated with, 106.  
—, cellulose ether softener, 2094.  
—, silk sized using, 259.  
—, size containing, 2309.  
—, wetting agent, 2207.  
Sodium stearoanilidosulfonate, wetting out agent, 1375.  
Sodium sulfanilate, 1375.  
Sodium sulfate, 2240.  
—, acetic acid concentrated using, 992.  
—, acetic anhydride made using, 522, 632.  
—, acetic anhydride mfr. by-product, 522.  
—, acetylating in presence of, 1057.  
—, ammonia, acetic acid concentrated with, 558.  
—, assistant in cellulose acetate dyeing, 528.  
—, catalyst in cellulose acetation, 979.  
—, cellulose acetate, porous, made with, 497.  
—, cellulose acetate coagulant, 447.  
—, cellulose acetate delustring prevented by, 635.  
—, cellulose acetate dyed using, 578.  
—, cellulose acetate lacquer containing, 599.  
—, cellulose acetate luster modified by, 609.  
—, cellulose acetate luster preserved by, 714.  
—, cellulose acetate protected by, in mercerizing, 616.  
—, cellulose acetate relustred by, 608, 636.  
—, cellulose acetate saponified by, 501.  
—, cellulose ester delustred by, 221.  
—, cellulose ether delustred by, 221.  
—, cellulose etherified in presence of, 1441.  
—, cellulose ether precipitant, 97.  
—, delustring prevented by, 105, 999.  
—, delustring with, 2194, 2645.  
—, fireproofing with, 566.  
—, influence of on cellulose acetate saponification, 969.

- Sodium sulfate, luster of cellulose acetate preserved by, 632.  
 —, luster preserved by, 2172, 2173.  
 —, porosity cellulose acetate increased by, 1007.  
 —, relustring with, 2199.  
 —, silk degummed using, 685.  
 —, sponge, artificial, made using, 2636.  
 —, surface tension in spinning lowered by, 708.  
*Sodium sulfate acid, see Niter cake.*  
 Sodium sulfatoethylaniline, cellulose acetate dyed using, 611.  
 Sodium sulfide, cellulose acetate saponified by, 1069.  
 —, cellulose acetate soaped by, 500.  
 —, cellulose ester dyed using, 239.  
 —, cellulose ether colored using, 2476.  
 —, cellulose ether dyed using, 239.  
 Sodium sulfite, benzylcellulose treated with, 1561.  
 —, cellulose acetate emulsion containing, 128.  
 —, cellulose acetate luster preserved by, 714.  
 —, cellulose ether emulsion containing, 128.  
 —, luster preserved by, 2173.  
 —, safe ironing temperature raised by, 2165.  
 Sodium *p*-sulfobenzeneazo-*m*-phenylenediamineazosalicylate, 2232.  
 Sodium sulfobenzenericinoleate, cellulose ether fabric treated with, 106.  
 —, cellulose ether softener, 2220.  
 —, dyes solubilized by, 776.  
 —, solubilizing agent, 2211.  
 Sodium sulfobenzenestearate, cellulose ether fabric treated with, 106.  
 —, cellulose ether softener, 2220.  
 —, solubilizing agent, 2211.  
 Sodium sulfocyanide, cellulose ether solvent, 108.  
 Sodium *iso*-sulfocyanide, cellulose ether solvent, 108.  
 Sodium sulfolaurate, softener, 2215.  
 Sodium sulfomyristate, softener, 2215.  
 Sodium sulfonaphthalenericinoleate, cellulose ether fabric coated with, 106.  
 Sodium sulfonaphthalenericinoleate, cellulose ether softener, 2220.  
 —, cellulose formate dyed using, 607.  
 —, cellulose propionate dyed using, 607.  
 —, dyes solubilized by, 776.  
 —, solubilizing agent, 2211.  
 Sodium sulfonaphthalenestearate, cellulose ether fabric treated with, 106.  
 —, cellulose ether softener, 2220.  
 —, solubilizing agent, 2211.  
 Sodium sulfonaphthenate, solubilizing agent, 2212.  
 Sodium sulfo-oleate, cellulose ether dyed in presence of, 113.  
 —, dyeing cellulose acetate in presence of, 499.  
 —, solubilizing dyes with, 499.  
 Sodium sulfo-palmitate, cellulose ether dyed in presence of, 113.  
 —, cellulose ether emulsifier, 2083.  
 —, cellulose ether precipitant, 2086.  
 —, dyeing cellulose acetate in presence of, 499.  
 —, softener, 2215.  
 —, solubilizing dyes with, 499.  
*mono*-Sodium sulfopalmitate, cellulose acetate softener, 881.  
*Sodium sulfophenolate, see Sodium phenolsulfonate.*  
 Sodium sulfophenolricinoleate, cellulose ether fabric treated with, 106.  
 —, cellulose ether softener, 2220.  
 —, dyes solubilized by, 776.  
 —, solubilizing agent, 2211.  
 Sodium sulfophenolstearate, cellulose ether softener, 2220.  
 —, solubilizing agent, 2211.  
 Sodium sulforicinate, cellulose ether emulsifier, 2083.  
 Sodium sulforicinoleate, 637.  
 —, cellulose acetate dyed using, 499, 606.  
 —, cellulose ether dyed using, 113, 2270, 2296.  
 —, cellulose formate dyed using, 607.  
 —, cellulose propionate dyed using, 607.  
 —, dispersing agent, 2227.  
 —, solubilizing dyes with, 499, 780.  
 Sodium sulfostearate, cellulose acetate dyed in presence of, 499.

- Sodium sulfostearate, cellulose ether dyed in presence of, 113.  
—, solubilizing dyes with, 499.  
Sodium sulfoxylate, 2319.  
—, dye removed from cellulose acetate by, 825.  
Sodium sulfoxylate-formaldehyde, 881.  
Sodium tartrate, 1094.  
—, cellulose nitrate solvent, 1893.  
—, scoop imparted by, 935, 2203.  
—, sheen of cellulose acetate augmented by formaldehyde and, 679.  
Sodium 1.4.5.8-tetra-aminoanthraquinone-*N*-methyl sulfonate, ethylcellulose dyed by, 112, 2275.  
Sodium tetrathionate, cellulose acetate dyed using, 859.  
—, cellulose ether dyed using, 2258.  
Sodium thiocyanate, 1688.  
—, benzylcellulose mordanted by, 113, 137, 1587.  
—, cellulose acetate solvent, 567, 2075.  
—, cellulose acetate swelling agent, 501, 636.  
—, cellulose ether printing using, 2323.  
—, cellulose ether softener, 2155.  
—, cellulose ether solvent, 97, 2075, 2082.  
—, cellulose formate solvent, 640.  
—, delustring prevented by, 133.  
—, ethylcellulose mordanted by, 113, 137.  
—, film made using, 2528.  
—, formyl nitrate solvent, 640.  
—, methylcellulose mordanted by, 113.  
—, starch, acetylating, in presence of, 837.  
Sodium isothiocyanate, film made using, 2528.  
Sodium thioglycollate, 1642.  
Sodium thiosulfate, cellulose acetate emulsion containing, 128.  
—, cellulose ether dyed using, 2250.  
—, cellulose ether emulsion containing, 128.  
Sodium tungstate, 2058, 2059.  
—, cellulose acetate fireproofed with, 875.  
Sodium vanadate, 1627.  
Sodium xanthate, mfr., 161.  
Sodium xylenolate, cellulose acetate dyed using, 606, 2243.  
Sodium xylenolate, cellulose ether dyed using, 2266.  
Sodium xylylchloride-sulfonate, 1602, 1603, 1683.  
—, mfr. of, 123.  
Sodium zincate, 2318.  
—, cellulose acetate dyed in presence of, 778.  
—, cellulose acetate hydrolyzed by, 749.  
—, cellulose ester weighted with, 213.  
—, cellulose ether weighted with, 213.  
—, cellulose mercerized by, 9.  
—, delustring using, 2178.  
—, loading with, 2147.  
—, weighting with, 213.  
Softener, definition, 1789.  
*Softener P. A.*, see *Ethylene glycol ethyl ether phthalate*.  
*Softener P. M.*, see *Ethylene glycol methyl ether phthalate*.  
Solactol, 1918.  
—, see also *Ethyl lactate*.  
*Solaesthin*, see *Methylene chloride*.  
Solakol, 487.  
—, mfr., 2480.  
Solder, cellulose acetate for, 687.  
Sole, cellulose acetate for waterproofing, 481.  
—, *b*-naphthol in mfr. of, 481.  
—, waterproof, cellulose acetate, 433.  
—, —, cellulose nitrate, 433.  
—, waterproofing, cellulose acetate for, 481.  
Soledon dyes, 1086.  
Soledon Jade, 1682.  
Soledon Jade green, cellulose acetate dyed using, 825.  
—, cellulose ether dyed using, 2244.  
Solid alcohol, mfr., 2480.  
*Solid collodion*, see *Alcohol solid; Celluloid*.  
Solidified alcohol, 335.  
—, see also *Alcohol, solid*.  
*Solidified collodion*, see *Celluloid*.  
Solid spirit, mfr., 2480.  
Solid sunbeams, 487.  
—, mfr., 2480.  
Solol, 487.  
—, mfr., 2480.  
Solubilizing agent, 2210.  
*Soluble cellulose*, see *Cellulose nitrate*.  
*Soluble indigo*, see *Indigo carmine*.



- Soluble starch, 1732.  
—, esterifying, 795.  
—, mfr., 363.  
—, *p*-toluenechlorosulfonic acid action on, 795.  
—, *see also* Starch, soluble.  
Solutions, alkaline, resistance to, cellulose ether, 2441.  
Solvace, 1818.  
Solval A, *see* Propyl acetate.  
Solval B, *see* Propyl acetate.  
Solvane, 1806.  
—, *see also* Coal tar naphtha.  
Solvenol, *see* Dipentene.  
Solvent BP, *see* Butyl propionate.  
Solvent DA, *see* Diacetone alcohol.  
Solvent E 13, 1914.  
—, *see also* Ethyl acetate mixture; Methyl acetate mixture.  
Solvent GC, *see* Ethyleneglycol diacetate; Glycol acetate; Glycol monoacetate.  
Solvent GD, *see* Glycol diacetate.  
Solvent O, *see* Butyl oxalate.  
Solvent naphtha, 1806, 1972.  
—, cellulose acetate protected by, in mercerizing, 616.  
Solvent recovery, 2125.  
—, Bregeat process, 571.  
—, *see also* Solvents, recovery of.  
Solvents, cellulose purified by, 1411.  
—, dissolving power of, 595.  
—, flash points, 2060.  
—, recovery of, 299, 399, 414, 440.  
—, volatile, dyeing with, 2236.  
Solvent test, cellulose acetate, 651.  
Solvolene, 701.  
Solvulose, 1851.  
—, *see also* Ethylene glycol monoethyl ether.  
Solway Emerald, cellulose ether dyed using, 2296.  
Sorbic acid, *see* Sorbic acid.  
Sorbino, *see* Sorbin.  
Sorbite, 1856.  
—, cellulose acetate shrinkage prevented by, 804.  
Sorbitol, 203, 1858, 2427.  
—, abietic acid condensed with, 234.  
—, cellulose ester plasticizer, 154.  
—, cellulose ether plasticizer, 154.  
—, chlorphthalic acid condensed with, 234.  
—, diglycolic acid condensed with, 234.  
—, lauric acid condensed with, 234.  
Sorbitol, linoleic acid condensed with, 234.  
—, maleic acid condensed with, 234.  
—, naphthenic acid condensed with, 234.  
—, phthalic acid condensed with, 234.  
—, ricinoleic acid condensed with, 234.  
—, salicylacetic acid condensed with, 234.  
—, succinic acid condensed with, 234.  
Sorbitol abietate, benzylcellulose with, 1576.  
—, benzylcellulose lacquer with, 234.  
—, ethylbutylcellulose with, 1576.  
—, ethylbutylcellulose lacquer with, 234.  
—, ethylcellulose with, 1576.  
—, ethylcellulose lacquer with, 234.  
Sorbitol acetate, 1912.  
Sorbitol aceto-maleate, mfr., 1614.  
Sorbitol aceto-oxalate, mfr., 1614.  
Sorbitol aceto-phthalate, mfr., 1614.  
Sorbitol aceto-succinate, mfr., 1614.  
Sorbitol acid phthalate, cellulose ester plasticizer, 203.  
—, cellulose ether plasticizer, 203.  
Sorbitol adipate, 2053.  
Sorbitol benzoate, 1912.  
Sorbitol benzo-maleate, mfr., 1614.  
Sorbitol benzo-oxalate, mfr., 1614.  
Sorbitol benzo-phthalate mfr., 1614.  
Sorbitol benzo-succinate, mfr., 1614.  
Sorbitol chlorphthalate, benzylcellulose with, 1576.  
—, benzylcellulose lacquer with, 234.  
—, ethylbutylcellulose with, 1576.  
—, ethylbutylcellulose lacquer with, 234.  
—, ethylcellulose with, 1576.  
—, ethylcellulose lacquer with, 234.  
Sorbitol diglycolate, 2053.  
—, benzylcellulose with, 1576.  
—, benzylcellulose lacquer with, 234.  
—, ethylbutylcellulose with, 1576.  
—, ethylbutylcellulose lacquer with, 234.  
—, ethylcellulose with, 1576.  
—, ethylcellulose lacquer with, 234.

- Sorbitol formate, 1912.  
 Sorbitol formo-maleate, mfr., 1614.  
 Sorbitol formo-oxalate, mfr., 1614.  
 Sorbitol formo-phthalate, mfr., 1614.  
 Sorbitol formo-succinate, mfr., 1614.  
*Sorbitol hexahydrobenzoate, see Sorbitol naphthenate.*  
 Sorbitol laurate, benzylcellulose with, 1576.  
 —, benzylcellulose lacquer with, 234.  
 —, ethylbutylcellulose with, 1576.  
 —, ethylbutylcellulose lacquer with, 234.  
 —, ethylcellulose with, 1576.  
 —, ethylcellulose lacquer with, 234.  
 Sorbitol linoleate, 1966.  
 —, benzylcellulose with, 1576.  
 —, benzylcellulose lacquer with, 234.  
 —, ethylbutylcellulose with, 1576.  
 —, ethylbutylcellulose lacquer with, 234.  
 —, ethylcellulose with, 1576.  
 —, ethylcellulose lacquer with, 234.  
 Sorbitol malate, 1950.  
 Sorbitol maleate, 1912, 2053.  
 —, benzylcellulose with, 1576.  
 —, benzylcellulose lacquer with, 234.  
 —, ethylbutylcellulose with, 1576.  
 —, ethylbutylcellulose lacquer with, 234.  
 —, ethylcellulose with, 1576.  
 —, ethylcellulose lacquer with, 234.  
 Sorbitol montanate, 1966.  
 Sorbitol naphthenate, 1966.  
 —, benzylcellulose with, 1576.  
 —, benzylcellulose lacquer with, 234.  
 —, ethylbutylcellulose with, 1576.  
 —, methylbutylcellulose lacquer with, 234.  
 —, ethylcellulose with, 1576.  
 —, ethylcellulose lacquer with, 234.  
 Sorbitol oleate, 1966.  
 Sorbitol oxalate, 1912, 2053.  
 —, cellulose ester plasticizer, 203.  
 —, cellulose ether plasticizer, 203.  
 Sorbitol phthalate, 1912.  
 —, benzylcellulose with, 1576.  
 —, benzylcellulose lacquer with, 234.  
 —, cellulose ester plasticizer, 203.  
 —, cellulose ether plasticizer, 203.  
 Sorbitol phthalate, ethylbutylcellulose with, 1576.  
 —, ethylbutylcellulose lacquer with, 234.  
 —, ethylcellulose with, 1576.  
 —, ethylcellulose lacquer with, 234.  
 Sorbitol resinate, 1966.  
 Sorbitol ricinoleate, 1966.  
 —, benzylcellulose with, 1576.  
 —, benzylcellulose lacquer with, 234.  
 —, ethylbutylcellulose with, 1576.  
 —, ethylbutylcellulose lacquer with, 234.  
 —, ethylcellulose with, 1576.  
 —, ethylcellulose lacquer with, 234.  
 Sorbitol salicylate, benzylcellulose with, 1576.  
 —, benzylcellulose lacquer with, 234.  
 —, ethylbutylcellulose with, 1576.  
 —, ethylbutylcellulose lacquer with, 234.  
 —, ethylcellulose with, 1576.  
 —, ethylcellulose lacquer with, 234.  
 Sorbitol stearate, 1966.  
 Sorbitol succinate, 1912, 2053.  
 —, benzylcellulose with, 1576.  
 —, benzylcellulose lacquer with, 234.  
 —, cellulose ester plastifier, 203.  
 —, cellulose ether plastifier, 203.  
 —, ethylbutylcellulose with, 1576.  
 —, ethylbutylcellulose lacquer with, 234.  
 —, ethylcellulose with, 1576.  
 —, ethylcellulose lacquer with, 234.  
*Sorbose, see Sorbin.*  
*Sound record, see Phonograph record.*  
 Soya bean oil, carbon dioxide treatment of, 984.  
 —, hydrogen sulfide treatment of, 984.  
 —, hydrogen treatment of, 984.  
 —, nitrated, 2056.  
 —, oxidized, cellulose acetate softener, 459.  
 —, sulfur dioxide treatment of, 984.  
*Sozolic acid, see Aseptol.*  
*Spanish fly, see Cantharides.*  
*Spanish leather, see Leather, Spanish.*  
 Spearmint oil, 2044, 2048.  
*Specific rotatory power, see Rotatory power.*

- Specimens, mounting, cellulose acetate for, 963.  
Spectacle lens, cellulose acetate in uniting, 924.  
*Spectral*, see *Carbon tetrachloride*.  
*Spectrol*, see *Carbon tetrachloride (perfumed)*.  
Spermaceti, benzylcellulose treated with, 1562.  
—, cellulose acetate homogenized with, 946.  
—, cellulose acetate ironing temperature reduced by, 933.  
—, delustring with, 2182.  
Sperm oil, nitrated, 2056.  
—, oxidized, cellulose acetate softener, 459.  
—, stencil sheet made using, 2490.  
—, sulfonated, stencil sheet made using, 2497.  
Spicer-Dufay process, 924.  
Spike oil, cellulose acetate solvent, 1818, 1819.  
Spinacene, 1969.  
—, stencil sheet made using, 664.  
Spindle oil, cellulose ether lubricant, 2231.  
Spinning, 2073.  
—, box, 2106.  
—, cap, 2107.  
—, clarifying solution for, 2073.  
—, flow regulation, 2110.  
—, pressure regulation, 2110.  
—, wet, 2074, 2102.  
Spinning apparatus, 159.  
Spinning jet, 160.  
Spinning nozzle, 249.  
Spinning roller, cellulose acetate for coating, 378.  
Spirit blue, 944.  
Spirosal, 1964.  
Splint, mfr., cellulose acetate for, 423.  
*Splinterless glass*, see *Glass, laminated*.  
Splintex, 2568.  
Splitting, preventing, 2144.  
Sponge, artificial, cellulose acetate for, 425, 478.  
—, —, mfr. of, 2535.  
—, —, —, cellulose acetate for, 694.  
Spool, cellulose ether dyed using, 2308.  
—, cellulose margarate for coating, 879.  
—, cellulose oleate for coating, 879.  
Spool, cellulose palmitate for coating, 879.  
—, cellulose stearate for coating, 879.  
—, film, cellulose ester-ether for, 191.  
—, —, cellulose ether for, 191.  
—, photographic, cellulose ether for, 191.  
Spruce bark extract, 903.  
Spruce oil, 1964.  
—, cellulose acetate solvent, 1818, 1819.  
Squalene, 1966, 1969.  
—, stencil sheet made using, 664, 2488.  
S. R. A., 745, 763.  
—, cellulose acetate dyed by, 619, 630, 639, 640, 653, 689, 738, 920  
—, viscose dyed with, 689.  
—, wool dyed with, 689.  
S. R. A. colors, 527, 528, 2319.  
S. R. A. dyes, 694, 972, 2321.  
—, application of, 2312.  
—, cellulose ether dyed using, 2266, 2293.  
S. R. A. black IV, cellulose ether dyed using, 2293, 2301.  
S. R. A. blue III, cellulose acetate dyed using, 653.  
—, cellulose ether dyed using, 2293  
S. R. A. blue IV, cellulose acetate dyed using, 653.  
—, cellulose ether dyed using, 2293  
S. R. A. blue V, cellulose acetate dyed using, 653.  
S. R. A. blue VII, cellulose acetate dyed using, 653.  
—, cellulose ether dyed using, 2293  
S. R. A. golden orange I, cellulose ether dyed using, 2293.  
S. R. A. golden orange III, cellulose ether dyed using, 2293.  
S. R. A. heliotrope I, cellulose ether dyed using, 2293.  
S. R. A. orange I, cellulose ether dyed using, 2293.  
S. R. A. orange II, cellulose ether dyed using, 2293.  
S. R. A. red I, cellulose ether dyed using, 2293.  
S. R. A. red III, cellulose ether dyed using, 2293.  
S. R. A. red V, cellulose acetate dyed using, 690.  
—, cellulose ether dyed using, 2293  
—, viscose dyed using, 690.

- S. R. A. red V, wool dyed using, 690.
- S. R. A. red VII, cellulose ether dyed using, 2293.
- S. R. A. violet II, cellulose ether dyed using, 2293.
- S. R. A. yellow I, cellulose ether dyed using, 2293.
- S. R. A. yellow II, cellulose ether dyed using, 2293.
- S. R. A. yellow VIII, cellulose ether dyed using, 2293.
- S. R. A. yellow IX, cellulose ether dyed using, 2293.
- Stability, cellulose acetate, testing, 595.
- Stannate, cellulose acetate dyed using, 504.
- Stannic*, see *Tin (ic)*.
- Stannous*, see *Tin (ous)*.
- Staple fiber, cellulose acetate., mfr., 520.
- , cellulose ester mfr., 220.
- , cellulose ether mfr., 220.
- , delustred, 2373.
- , fabrics from, 2345.
- , mfr., 220, 775, 2371.
- Starch, 1152, 2055.
- , acetated, film, non-static, made using, 703.
- , —, mfr., 340.
- , —, match head composition containing, 484.
- , acatation of, 309, 376, 418, 837, 978.
- , acetylation, 1051.
- , —, velocity of, 1491.
- , acetyl bromide action on, 591.
- , alkali esterified by, 795.
- , alkylated, cosmetic mfr. using, 87.
- , —, detergent mfr. using, 87.
- , —, disinfectant mfr. using, 87.
- , —, soap mfr. using, 87.
- , —, water-soluble, suspensoid, 2176.
- , alkylation of, 44, 910.
- , alkyl ethers of, 47.
- , allyl ether of, mfr., 99.
- , benzylated, solubility, 1516.
- , benzylation, 1516.
- , benzyl esters of, mfr., 1514.
- , benzyl ether of, 69.
- , butyl chloride for etherification of, 100.
- , cellulose acetate matt surface made using, 699.
- Starch, monochlorhydrin treatment of, 160.
- , cloth, tracing, made using, 706.
- , corn, amines solvent for, 2013.
- , —, cellulose acetate dyed using, 651.
- , —, cellulose acetate inflammability reduced, 540.
- , —, ethylating, 96, 109.
- , —, mfr., 1155.
- , degradation of, 591, 910.
- , dextrinized, sizing with, 2140.
- , diastase-treated, filament sized with, 1071.
- , diphenylethylene oxide compound with, 64.
- , dispersing agent, 2209.
- , distillation, 1107.
- , etherifying, 239, 1385, 1418, 1453.
- , ethers of, 82.
- , —, mfr., 280.
- , ethylation of, 44, 101, 150.
- , ethyl chloride for etherification of, 100.
- , ethylene action on, 1154.
- , ethylene glycol for etherifying, 1385.
- , ethylene glycol treatment of, 160.
- , ethylene imide compound with, 64.
- , ethylene oxide for etherifying, 1385.
- , ethylene sulfide compound with, 64.
- , fabric printed using, 2344.
- , filament sized with, 1071.
- , film dulled by, 1096.
- , film made using, 2504.
- , formaldehyde action on, 1618.
- , fumacylglycidic acid compound with, 64.
- , glycidic acid compound with, 64.
- , glycollic ethers of, 56, 57.
- , heat of combustion, 1158.
- , hemicellulose in, 1182.
- , hydrofluoric acid action on, 1154.
- , hydroxyalkylated, 1395.
- , iodide of, see *Starch iodide*.
- , laurylated, wood preserved by, 154.
- , maize, methylating, 1480.
- , —, see also *Starch, corn*.
- , mfr., 1152.
- , monomethyl, 95.

- Starch, methylated, hydrolysis of, 1482.  
—, methylation of, 30, 80, 95, 101, 123, 150, 163, 1051.  
—, methyl chloride for etherification of, 100.  
—, methylphenylethylene oxide compound with, 64.  
—, *modified*, see *Starch, soluble*.  
—, monochlorhydrin for etherifying, 1385.  
—, *nitrated*, see *Nitrostarch*.  
—, nitrogen tetroxide action on, 654.  
—, nitrogen trioxide action on, 654.  
—, paper glazed by, 242.  
—, paste, shoe stiffened using, 2472.  
—, potato, acetate of, 739.  
—, —, acetylating, 1053.  
—, —, dyeing, 3.  
—, —, methylating, 80, 163, 1472, 1473, 1478, 1480, 1481.  
—, powder, black, containing, 2470.  
—, *iso*-propyl chloride for etherification of, 100.  
—, *n*-propyl chloride for etherification of, 100.  
—, propylene oxide compound with, 64.  
—, propylene oxide for etherifying, 1385.  
—, pulverizable, mfr., 1154.  
—, rice, acetate of, 739.  
—, —, methylating, 1477, 1480.  
—, —, triphenylmethyl ether of, 71.  
—, size containing, 2309.  
—, soluble, 331.  
—, —, cellulose ether precipitant, 2086.  
—, —, cellulose ether strengthened by, 255.  
—, —, filament sized with, 1071.  
—, —, mfr., 340, 1491.  
—, —, methylation of, 1307.  
—, —, see also *Starch, acetylated*.  
—, sulfuric acid derivative of, mfr., 728.  
—, sulfur trioxide treatment of, 728.  
—, thickener, 1415.  
—, *thin-boiling*, see *Starch, soluble*.  
—, trimethylene oxide compound with, 64.  
—, triphenylcarbinol ether of, 70.  
Starch acetate, 331, 419, 529, 542, 739, 885, 900, 1492, 1966.  
Starch acetate, binder of, 415.  
—, binding agent made using, 1493.  
—, bronzing liquid made using, 1493.  
—, finish remover made using, 1493.  
—, mfr., 341, 1490.  
—, match made using, 404, 1493.  
—, paint remover made using, 1493.  
—, plastic made using, 1493.  
—, properties of, 313.  
—, stencil made using, 663.  
—, stencil preparation made using, 1493.  
—, stencil sheet made using, 663, 2490.  
—, uses, 404.  
Starch acetobutyrate, mfr., 878, 1065.  
Starch benzoate, 1493.  
Starch dilaurate, benzene solvent for, 538.  
—, chloroform solvent for, 538.  
—, pyridine solvent for, 538.  
—, tetrachlorethane solvent for, 538.  
Starch dipalmitate, benzene solvent for, 538.  
—, chloroform solvent for, 538.  
—, pyridine solvent for, 538.  
—, tetrachlorethane solvent for, 538.  
Starch distearate, benzene solvent for, 538.  
—, chloroform solvent for, 538.  
—, pyridine solvent for, 538.  
—, tetrachlorethane solvent for, 538.  
Starched linen, see *Linen, starched*.  
Starch ester, etherified, 1489.  
—, mfr., 1490.  
Starch ether, 196, 271, 1471.  
—, applications, 1488.  
—, esterified, 1489.  
—, manufacture, 1482, 2496.  
—, stencil sheet made using, 2493, 2495, 2496, 2497.  
Starch ether esters, 1489.  
Starch-formaldehyde, plastic of, 565.  
Starch formate, mfr., 341, 1490.  
Starch glycollate, 56, 57, 1494.  
—, methylation of, 56.  
Starch glycollic ether, 1482.  
Starch hexa-acetate, heat of combustion, 1158.

- Starch hexa-acetate, mfr., 550.  
Starch hexapalmitate, 1494.  
—, mfr., 550.  
Starch lactate, 656, 1494.  
Starch laurate, 201, 1715.  
—, coat, priming, containing, 2398.  
—, mfr., 878.  
—, uses, 1718.  
—, wood filler containing, 2398.  
—, *see also* Starch, laurylated.  
Starch laurate-benzoate, mfr., 790.  
Starch lauro-benzoate, mfr. of, 200.  
Starch lauryl-dinitrocellulose, 1716.  
Starch linoleate, 1494.  
—, mfr., 642.  
Starch linolenate, 1494.  
—, mfr., 642.  
Starch methylphenylethyleneoxide, 1489.  
Starch myristate, mfr., 878.  
Starch naphthenate-oleate-stearate, 1714.  
—, mfr., 788.  
Starch oleate, 1494.  
—, mfr., 642, 878.  
Starch palmitate, 1494, 1495, 1716, 1966.  
—, mfr., 548, 579, 878.  
Starch phenolsulfonate, 1495.  
Starch phenylacetate, mfr. of, 200, 790.  
Starch phthalate, 656, 1494.  
Starch stearate, 1494, 1716.  
—, mfr., 548, 878.  
—, stencil made using, 663.  
—, stencil sheet made using, 663.  
Starch sulfate, water-soluble, mfr., 914.  
Starch triacetate, 1478.  
—, mfr., 739.  
—, solubility, 739.  
Starch trichloracetate, 1695.  
Starch triformate, *see* Starch formate.  
Starch trilaurate, benzene solvent for, 538.  
—, chloroform solvent for, 538.  
—, pyridine solvent for, 538.  
—, tetrachlorethane solvent for, 538.  
Starch tripalmitate, benzene solvent for, 538.  
—, chloroform solvent for, 538.  
—, pyridine solvent for, 538.  
—, tetrachlorethane solvent for, 538.  
Starch tristearate, benzene solvent for, 538.  
—, chloroform solvent for, 538.  
—, pyridine solvent for, 538.  
—, tetrachlorethane solvent for, 538.  
Starch undecylenate, 1716.  
—, mfr., 548.  
Starch viscose, 357.  
Starch xanthate, acetamide compound of, 148.  
—, ammonia compound of, 148.  
—, benzamide compound of, 148.  
—, cyanamide compound of, 148.  
—, dicyanimide compound of, 148.  
—, dicyanodiamide compound of, 148.  
—, guanidine compound of, 148.  
—, nitrogen compounds of, 148.  
—, phthalimide compound of, 148.  
—, thiourea compound of, 148.  
Star solvent, 1914.  
Statutes, glazing, cellulose ether for, 2402.  
Statue, ornamenting, cellulose ether for, 189.  
Staybrite, 754.  
Steam, benzylcellulose, viscosity reduced by, 1558.  
—, cellulose acetate crinkled by, 500.  
—, cellulose acetate delustred by, 500.  
—, cellulose acetate relustred by, 608.  
—, cellulose purified by, 1411.  
—, delustring by, 2191, 2196.  
—, solvent removal by, 165.  
Stearamide, softener, 1069.  
Stearanilid, 2041.  
—, cellulose ester plasticizer, 270.  
—, cellulose ether plasticizer, 270.  
Stearic acid, 1652, 1655, 1709, 1714, 1715, 1719, 2539.  
—, alcohol solidified using, 486.  
—, amines solvent for, 2013.  
—, cellulose acetate ironing temperature reduced by, 933.  
—, cellulose ether fabric treated with, 106.  
—, cellulose ether treated with, 143.  
—, chlorinated, phonograph record containing, 364.  
—, crayon obtained from, 2423, 2540.  
—, ethylcellulose plastic containing, 291.

- Stearic acid, matt effect produced by, 2198.  
—, stencil sheet made using, 2499.  
—, wax, sealing, made using, 2540.  
Stearic aldehyde, mfr., 480.  
Stearic amide, cellulose ether softener, 2218.  
Stearic anhydride, 2158.  
—, paper waterproofed with, 997, 2437.  
—, properties, 732.  
Stearin, alcohol solidified using, 486.  
—, cellulose ether solvent, 2102.  
—, ethylcellulose solvent, 19, 1300.  
—, paint remover made containing, 992.  
—, starch ether solvent, 1483.  
—, stencil made using, 663.  
—, stencil sheet made using, 663, 664, 2488, 2490.  
—, *see also* *Tristearin*.  
Stearodipalmitin, properties, 732.  
Stearodistearin, properties, 732.  
Stearone, 1884.  
Stearyl chloride, 120, 1703, 1709, 1715, 2158.  
—, cellulose etherified in presence of, 709, 878, 987.  
—, mfr., 1705.  
—, softener, 1069.  
—, strengthening cellulose acetate filament by, 1029.  
—, textile, waterproofing with, 894.  
*b*-Stearyl dichlorhydrin, properties, 732.  
Stearyl palmitate, properties, 732.  
Stearylsarcosine, softener, 1069, 2216.  
Stearyl stearate, properties, 732.  
Steel, acetylating, mixture insoluble, 893.  
—, coating, 2392.  
—, immunized, etherifying in presence of, 95.  
Stencil, mfr. of, 663, 664, 1092.  
—, —, benzoylbutyl tartrate in, 1569.  
—, —, benzylcellulose for, 224, 1569.  
—, —, castor oil in, 1569.  
—, —, cellulose acetate for, 686, 976.  
—, —, cellulose ether for, 57, 164.  
—, —, cellulose ether, nitrated, for, 164.  
Stencil, mfr. of, *p*-chlorbenzylcellulose for, 224, 1569.  
—, —, hexa-chloronaphthalene in, 1569.  
—, —, phenylethylcellulose for, 224, 1569, 1604.  
—, —, starch ether for, 57.  
—, —, tetra-chloronaphthalene in, 1569.  
*Stencil blank, see Stencil.*  
Stencil preparation, starch acetate for, 1493.  
Stencil sheets, ethyl corn starch for mfr., 1488.  
—, inosite ether, 109.  
—, mfr. of, 519, 661, 663, 664, 801, 976, 2486.  
—, —, acetanilid in, 661.  
—, —, *mono*acetin in, 629.  
—, —, acetone in, 763.  
—, —, almond oil in, 629.  
—, —, amyl phthalate in, 629.  
—, —, amyl tartrate in, 29.  
—, —, benzoylbutyl tartrate in, 628.  
—, —, *monobenzoyl*butyl tartrate in, 763.  
—, —, butyl phthalate in, 629.  
—, —, butyl tartrate in, 629.  
—, —, castor oil in, 629, 661, 763.  
—, —, cellulose in, 628.  
—, —, cellulose acetate in, 629, 732, 763.  
—, —, chlornaphthalene in, 629, 661, 763.  
—, —, diacetin in, 629.  
—, —, diamyl phthalate in, 763.  
—, —, ethylstarch for, 96.  
—, —, oleic acid in, 661.  
—, —, olive oil in, 629.  
—, —, peanut oil in, 629.  
—, —, rape oil in, 629.  
—, —, starch acetate in, 629.  
—, —, stearic acid in, 661.  
—, —, triacetin in, 629.  
—, —, zinc oxide in, 763.  
—, —, zinc stearate in, 629.  
—, quercite ether, 109.  
—, starch ether, 109.  
Stereotype, mfr. of, cellulose acetate in, 404.  
—, —, cellulose benzoate in, 404.  
—, —, cellulose formate in, 404.  
—, —, cellulose sulfacetate in, 404.  
Sterlin, 2568.  
Sterno, 487.  
—, mfr., 2480.  
Stiastny method, 755.

- p*-Stibanilic acid, cellulose acetate dyed using, 653.
- Stibnic acid, cellulose ether fireproofed by, 135.
- , fireproofing with, 2129.
- , flameproofing with, 2129.
- Stibnic group, cellulose acetate dyed using, 653.
- Sticking plaster, 2445.
- Stiffener, shoe, celluloid in mfr., 2472.
- Stilbene, cellulose ether containing, 145.
- Stilbene diazo-*m*-bistoluidine, cellulose ether dyed using, 2254.
- Stilbenedisazobis-*a*-naphthylamine, cellulose ether dyed using, 2254.
- Stitch distortion, 2197.
- Stitching, surgical, mfr., 2541.
- Stocking, cellulose ether, 104.
- , mfr. of, cellulose acetate in, 989.
- , —, cellulose ether in, 2382.
- Stokes falling-sphere, 1784.
- Stone, adhesive for, 2598.
- , diphenylolpropane-acetone condensate as adhesive for, 260.
- , diphenylolpropane-formaldehyde condensate as adhesive for, 260.
- , phenolaldehyde condensate as adhesive for, 260.
- Storage battery, separator, linters in mfr. of, 1152.
- , *see also* *Battery, storage*.
- Storax, 1959.
- Straw, acetic acid from, 919.
- , alkylating, 282.
- , artificial, mfr. of, 866, 1075, 2117, 2373, 2378.
- , —, cellulose acetate for, 747, 749, 862, 1030.
- , —, —, cellulose ester in, 270.
- , —, —, cellulose ether in, 270.
- , barley, cellulose from, 296.
- , —, ethylating, 1627.
- , —, lignin, etherified, from, 296.
- , benzylating, 282, 1541.
- , cellulose from, 296.
- , lactic acid from, 919.
- , lignin, etherified, from, 296.
- , mfr. of, cellulose ether, 2108.
- , millinery, artificial, mfr. of, 2374.
- , oat, ethylating, 1627.
- , rye, ethylating, 1627.
- Straw, stiffening, cellulose acetate, 1089.
- , sulfuric acid derivatives of, mfr., 728.
- , sulfur trioxide treatment of, 728.
- , wheat, ethylating, 1627.
- Straw ether, mfr. of, 282.
- , solubility of, 282.
- Straw-like, cellulose acetate, pliability, improving, 935.
- Straw meal, cellulose united with, 538.
- , rubber united with, 538.
- Straw cellulose nitrate, see Cellulose nitrate, straw.*
- Strength, cellulose ester filament increased, 226.
- , cellulose ether filament increased 226.
- Strengthened glass, see Glass, laminated.*
- String, mfr. of, ethylcellulose in, 94.
- , tennis racquet, cellulose distearate for coating, 2392.
- , —, cellulose distearate lacquer for coating, 991.
- Strip, adhesive, cellulose laurate for, 1006.
- , match-box, cellulose acetate in mfr., 481.
- , mono-chromatic, benzylcellulose in mfr., 1571.
- , —, cellulose acetate in mfr., 1571.
- , —, cellulose nitrate in mfr., 1571.
- , multi-colored, benzylcellulose in mfr., 1571.
- , —, cellulose acetate in mfr., 1571.
- , —, cellulose nitrate in mfr., 1571.
- , photographic film, printing on, 2535.
- Stritar apparatus, 2658.
- Strontia, see Strontium hydroxide.*
- Strontium acetate, sulfur in cellulose acetate removed by, 929.
- Strontium bromide, cellulose acetate preserved by, 714.
- Strontium carbonate, cellulose acetate delustred by, 747.
- Strontium chloride, cellulose acetate preserved by, 714.
- , delusturing using, 2179.



- Strontium chloride, luster of cellulose acetate preserved by, 632.  
 —, luster preserved by, 2172.  
 Strontium citrate, cellulose nitrate solvent, 1893.  
 Strontium lactate, 2058.  
 —, cellulose nitrate solvent, 1893.  
 Strontium levulinate, cellulose nitrate solvent, 1893.  
 Strontium nitrate, cellulose ether precipitant, 2086.  
 —, cellulose formate solvent, 463.  
 —, delustring using, 2179.  
 Strontium oleate, 1076.  
 —, varnish containing, caoutchouc and, 249.  
 —, —, cellulose ester and, 249.  
 —, —, cellulose ether and, 249.  
 Strontium oxalate, cellulose nitrate solvent, 1893.  
 Strontium phosphate, cellulose acetate delustred by, 747, 767.  
 Strontium resinate, varnish containing, caoutchouc and, 249.  
 —, —, cellulose ester and, 249.  
 —, —, cellulose ether and, 249.  
 Strontium sulfate, 1075.  
 —, cellulose acetate delustred by, 747, 767.  
 —, delustring with, 2176.  
 Strontium sulfide, phosphorescence produced by, 1372.  
 Strontium tartrate, cellulose nitrate solvent, 1893.  
 Strontium thiocyanate, cellulose formate solvent, 640.  
 —, cellulose formylnitrate solvent, 640.  
 Strontium tungstate, acetic anhydride made using, 754, 769.  
 Strychnine, amines solvent for, 2013.  
 —, *see also Nux vomica*.  
 Styacin, 1959, 1979.  
 —, *see also Cinnamyl cinnamate*.  
 Styrax, *see Storax*.  
 Styrene, 1994.  
 —, benzylcellulose combined with, 294.  
 —, cellulose acetate combined with, 294.  
 —, cellulose butyrate combined with, 294.  
 —, cellulose ether plastifier, 223.  
 —, cellulose propionate combined with, 294.  
 Styrene, ethylcellulose combined with, 294.  
 —, methylcellulose combined with, 294.  
 —, *see also Cinnamene; Styrol*.  
*m*-Styrene, 1810, 1889.  
*m*-Styrenebutyl phthalate, 1976.  
*m*-Styrenedibutyl phthalate, 1809.  
 Styrol, 1993.  
 —, cellulose acetate spun with, 2084.  
 —, cellulose ether plastifier, 173.  
 —, filament, artificial, made using, 820.  
 —, *see also Metastyrol; Styrene; m-Styrene*.  
*m*-Styrol, 1954.  
 —, *see also Styrol*.  
 Styrol dibromide, 1895.  
 Styrolene, 2047.  
 —, *see also Styrene; Styrol*.  
 Styron (crystallized), *see Cinnamic alcohol*.  
 Styryl alcohol, *see Styron*.  
 Styryl cinnamate, 1979.  
 Suberic acid, 1984.  
 —, glyceryl condensate of, cellulose acetate plastifier, 939.  
 Suberone, 1984.  
 Substitute, glass, mfr. of, 2554.  
 Succinic acid, 2426.  
 —, amines solvent for, 2013.  
 —, cellulose acetate printing using, 608.  
 —, delustring by, 2345.  
 —, glycerol condensed with, 234.  
 —, mfr., 858.  
 —, pattern effects on cellulose acetate by, 774.  
 —, pentaerythritol condensed with, 234.  
 —, sorbitol condensed with, 234.  
 Succinic anhydrides, cellulose treated with, 2314.  
 —, cotton immunized by, 907.  
 —, linen immunized by, 907.  
 —, rayon immunized by, 907.  
 Succinic esters, 1949.  
 Succinic ether, *see Ethyl disuccinate; Ethyl succinate*.  
 Succinic-*a*-naphthalide, delustring with, 2185.  
 Succinic-*a*-naphthylamide, cellulose acetate delustred by, 962.  
 Succinimide, 2006.  
 —, amines solvent for, 2013.

*Succinonitrile*, see *Ethylene cyanide*.

Succloughene, 701.

Sucrose, 1134.

—, acetylation of, 441.

—, allylated, 1636.

—, amines solvent for, 2013.

—, benzylated, 1517.

—, benzyl esters of, mfr., 1514.

—, benzyl ether of, 69.

—, cellulose acetate protected by, in mercerizing, 616.

—, spinning in presence of, 1070.

Sucrose acetate, dialyzing, 739.

Sucrose hexlinoleate, mfr., 533.

Sudan III, cellulose acetate dyed using, 499.

Suet, beef, cellulose ether softener, 2122.

Sugar, acetates of, 310, 311.

—, acetation of, 309.

—, artificial sponge made using, 425.

—, cellulose acetate precipitant, 785.

—, cellulose ether delustred with, 185.

—, cellulose pretreated with, 655.

—, delustring with, 185.

—, diphenylethylene oxide compound with, 64.

—, etherifying, 239.

—, ethers of, 310.

—, ethylene imide compound with, 64.

—, ethylene sulfide compound with, 64.

—, fumacylglycidic acid compound with, 64.

—, glass, laminated, made using, 655.

—, glycidic acid compound with, 64.

—, grape, spinning in presence of, 1070.

—, hollow filament made using, 829.

—, inversion, delustring using, 2178.

—, invert, spinning in presence of, 1070.

—, ethylated, reactivity of, 277.

—, methylation, 301.

—, methylphenylethylene oxide compound with, 64.

—, pearl essence made using, 2619.

Sugar, propylene oxide compound with, 64.

—, relustring with, 2201.

—, sponge, artificial, made using, 2536.

—, stencil sheet made using, 2495.

—, trimethylene oxide compound with, 64.

*Sugar of lead*, see *Lead acetate*.

Sugars, 2058.

—, acetylated, mfr., 737.

—, alkylated, mfr., 42.

—, alkylating, 2.

—, allyl ether of, mfr., 99.

—, cellulose ether precipitant, 2087.

—, record, phonograph, made using, 2606.

Sulfacetates, detecting, 528.

—, estimating, 528.

Sulfacetic acid, catalyst in cellulose acetating, 364, 400.

—, cellulose ether strengthened by, 2135.

Sulfacetic esters, cellulose acetate plastifier, 391.

Sulfamic acids, cellulose ether dyed using, 2276.

*m*-Sulfamidoethylester, 2043.

*o*-Sulfamidoethylester, 2043.

*p*-Sulfaminoethylester, 2043.

4-Sulfamino-1.8-naphthalic acid, cellulose ether dyed using, 2283.

4-Sulfamino-1.8-naphthalic anhydride, cellulose ether dyed using, 2283.

Sulfanilic acid, 2249.

—, amines solvent for, 2013.

—, cellulose acetate dyed using, 653, 1010.

—, cellulose ether dyed using, 148, 156, 2261.

—, diazotized, cellulose ether dyed using, 2277.

Sulfanilid, block, molded, made using, 162.

—, plastic made using, 2560.

—, record, phonograph, made using, 162.

Sulfato compounds, cellulose ether dyed using, 2273.

Sulfatoethylaniline, cellulose acetate dyed using, 611.

Sulfatoethyl-*a*-naphthylamine, cellulose acetate dyed using, 612.

Sulfatoethyl-*b*-naphthylamine, cellulose acetate dyed using, 611.

- Sulfatoethyl-*o*-toluidine, cellulose acetate dyed using, 611.
- Sulfethylic acid*, see *Ethylsulfuric acid*.
- Sulfinic acid, catalyst in cellulose acetating, 351.
- Sulfite*, see *Cellulose sulfite*.
- Sulfite-cellulose, cellulose acetate mfr., from, 896.
- Sulfite cellulose lye, dyeing in presence of, 548.
- Sulfite cellulose pitch, cellulose acetate dyed using, 717.
- Sulfite cellulose spent liquors*, see *Sulfite lye*.
- Sulfite waste liquor, cellulose acetate dyed using, 672.
- , cellulose ether strengthened by, 255.
- , spinning in presence of, 1070.
- Sulfoacetic acid, 898.
- , cellulose acetate toughened by, 866.
- , cellulose ester coagulant for, 226.
- , cellulose ether coagulant for, 226.
- Sulfoaromatic ricinoleic acid, solubilizing agent, 2211.
- Sulfoaromatic stearic acid, solubilizing agent, 2211.
- mono*Sulfoarylazodiarylamine, cellulose ester dyed with, 157.
- , cellulose ether dyed with, 157.
- p*-Sulfobenzeneazoanthranilic acid, 1731.
- p*-Sulfobenzeneazoisatoic anhydride, 1731.
- Sulfobenzenericinoleic acid, cellulose ether fabric treated with, 106.
- , cellulose ether softener, 2220.
- , dyes solubilized by, 776.
- , solubilizing agent, 2211.
- Sulfobenzenestearic acid, cellulose ether fabric treated with, 106.
- , cellulose ether softener, 2220.
- , solubilizing agent, 2211, 2219.
- Sulfobenzid, 2024.
- p*-Sulfobenzyl chloride, cellulose etherified by, 1602.
- Sulfobenzyl ether, cellulose etherified by, 1602.
- 4-Sulfobenzyl-2-toluidin, cellulose ether dyed with, 113.
- Sulfocarbanilid, 2024.
- Sulfochloride, cellulose acetate treated with, 997.
- Sulfocyanic ether*, see *Ethyl sulfocyanate*.
- Sulfocyanide, cellulose ether solvent, 108.
- , see also *Thiocyanates*.
- iso*-Sulfocyanides, cellulose ether solvent, 108.
- Sulfohydrocellulose, etherification of, 12.
- Sulfohydroxyphenylstearic acid, cellulose ether treated with, 143.
- Sulfonal, 2024.
- , amines solvent for, 2013.
- Sulfonamide, 2035, 2040.
- , alkylated, chlorethylcellulose plasticizer, 1595.
- , —, methoxybenzenecellulose plasticizer, 1595.
- , —, methylbenzylcellulose plasticizer, 1595.
- , —, nitrobenzylcellulose plasticizer, 1595.
- , cellulose acetate solvent, 470.
- , record, phonograph, containing, 2604.
- Sulfonamide-aldehyde resin, cellulose acetate combined with, 953.
- Sulfonamide-benzaldehyde, lacquer mfr. using, 2394.
- Sulfonamide-furfural, lacquer mfr. using, 2394.
- Sulfonamidefurfural resin, 955.
- Sulfonaphthalenericinoleic acid, cellulose ether fabric treated with, 106.
- , cellulose ether softener, 2220.
- , dyes solubilized by, 776.
- , solubilizing agent, 2211, 2219.
- Sulfonaphthalenestearic acid, cellulose ether fabric treated with, 106.
- , cellulose ether softener, 2220.
- , solubilizing agent, 2211, 2219.
- Sulfonaphthenic acids, solubilizing agent, 2212.
- Sulfonaphthylstearic acid, cellulose treated with, 143.
- Sulfonate*, *mahogany*, see *Mahogany sulfonate*.
- , wetting agent, 2210.
- Sulfonated oil, degumming with, 2310.
- Sulfones, 2000, 2002.
- , cellulose acetate solvent, 509.
- , cellulose ether dissolved by, 39.

- Sulfones, cellulose ether softener, 80.  
—, cellulose nitrate solvent, 509.  
Sulfonic acid, acetating in presence of, 352.  
—, acetic acid mfr. using, 633.  
—, catalyst in cellulose acetating, 392.  
—, catalyst in cellulose crotonate mfr., 906.  
—, cellulose acetate treated with, 495.  
Sulfonic chloride, 2313.  
Sulfonmethyleamide, 2036.  
—, cellulose acetate plasticizer, 757.  
Sulfonyl chloride, 1751.  
—, cellulose acetate mfr. using as catalyst, 642.  
—, cellulose aceto-formate mfr. using as catalyst, 642.  
—, cellulose formate mfr. using as catalyst, 642.  
—, cellulose propionate mfr. using as catalyst, 642.  
Sulfo-oleic acids, solubilizing dyes with, 499.  
Sulfo-oleic acid salts, dyeing cellulose acetate in presence of, 499.  
Sulfopalmitic acid, catalyst in cellulose acetating, 373.  
—, solubilizing dyes with, 499.  
Sulfopalmitic acid salts, dyeing cellulose acetate in presence of, 499.  
*Sulfophenolic acid*, see *Phenol sulfonic acid*.  
Sulfophenolricinoleic acid, cellulose ether fabric treated with, 106.  
—, cellulose ether softener, 2220.  
—, dyes solubilized by, 776.  
—, solubilizing agent, 2211.  
Sulfophenolstearic acid, cellulose ether softener, 2220.  
—, solubilizing agent, 2211, 2219.  
1-(4'-Sulfophenyl-3-methyl-5-pyrazolone, cellulose acetate dyed using, 881, 2246.  
Sulfophenylstearic acid, cellulose ether treated with, 143.  
Sulfophthalic acid, cellulose ester coagulant for, 226.  
—, cellulose ether coagulant for, 226.  
Sulforhodamine, 1753.  
Sulforicinic acid, catalyst in cellulose acetating, 373.  
Sulforicinoleate, guanin purified by, 2617.  
Sulforicinoleate, wetting agent, 2206.  
Sulforicinoleic acid, 527, 2139, 2140.  
—, cellulose acetate softener, 966.  
—, solubilizing agent, 2219.  
—, solubilizing dyes with, 499.  
Sulforicinoleic acid salts, dyeing cellulose acetate in presence of, 499.  
Sulfosalicylic acid, cellulose ester coagulant for, 226.  
—, cellulose ether coagulant for, 226.  
Sulfostearic acids, solubilizing dyes with, 499.  
Sulfostearic acid salts, dyeing cellulose acetate in presence of, 499.  
Sulfosuccinic acid, cellulose ester coagulant for, 226.  
—, cellulose ether coagulant for, 226.  
*Sulfourea*, see *Thiocarbamide*.  
Sulfovinic acid, mfr., 1277.  
—, see also *Ethylsulfuric acid*.  
*Sulfovinous acid*, see *Ethylsulfurous acid*.  
Sulfoxides, 2001, 2002.  
—, benzylcellulose stabilizer, 1565.  
—, ethylcellulose stabilizer, 1565.  
—, stabilizer, 1565.  
Sulfoxylate, 2239.  
—, discharging with, 852.  
Sulfur, acetic anhydride made using, 647.  
—, colloidal, mfr., 2448.  
—, hollow filaments made using, 829.  
—, molding cellulose acetate with, 677.  
—, rhombic, amines solvent for, 2013.  
—, solvent, 1796.  
Sulfur acetate, methyl chloride solvent for, 1253.  
*Sulfurated potash*, see *Potassium polysulfide*.  
Sulfur chloride, 1685.  
—, acetic anhydride made using, 845.  
—, cellulose compounds of, 504.  
—, cellulose oxidized by, 12.  
—, methoxyacetic anhydride made with, 186.  
—, rubber, artificial, made using, 383.  
—, trichlorhydrin made using, 539.

- Sulfur monochloride, acetic anhydride made using, 562.
- Sulfur dichloride, acetic anhydride made using, 581.
- Sulfur dioxide, acetic acid dehydrated using, 988, 1022.
- , acetic acid purified by, 564.
- , acetic anhydride made using, 769.
- , benzylcellulose viscosity reduced by, 1560.
- , catalyst in cellulose acetate mfr., 495, 838.
- , cellulose acetate purified by, 1063.
- , cellulose acetylated in presence of, 849.
- , cellulose ether solvent, 1799.
- , cellulose pretreated with, 941.
- , cellulose purified by, 1407.
- , cottonseed oil treated with, 984.
- , fireproofing with, 566.
- , hydrogen bisulfide oxidant, 148.
- , linseed oil treated with, 984.
- , liquid, 1739.
- , —, benzylcellulose solvent, 2098.
- , —, catalyst in cellulose acetate mfr., 669, 1019.
- , —, cellulose acetate mfr., in presence of, 977.
- , —, cellulose acetate solvent, 566, 620.
- , —, cellulose acetate nitrate made using, 877.
- , —, cellulose monoacetyl-dinitrate made using, 877.
- , —, cellulose esterified using, 915, 1036.
- , —, cellulose ester solvent, 1018.
- , —, cellulose nitrate solvent, 620.
- , —, ethylbenzylcellulose solvent, 2098.
- , —, ethylcellulose solvent, 2098.
- , —, solvent, 1797.
- , solvent, 1796.
- , soya bean oil treated with, 984.
- , trichlorhydrin made using, 539.
- , tung oil treated with, 984.
- , *see also Sulfurous acid.*
- Sulfur dye, cellulose acetate dyed with, 511.
- Sulfur emulsion, mfr. of, cellulose ether for, 86.
- Sulfuretted hydrogen, see Hydrogen sulfide.*
- Sulfuric acid, aromatic, catalyst in acetating, 352.
- Sulfuric acid, carbonizing with, 2205.
- , catalyst in acetation, 318, 433.
- , catalyst in cellulose acetate mfr., 417, 465, 670, 919.
- , catalyst in cellulose acetating, 440.
- , catalyst in cellulose crotonate mfr., 906.
- , catalyst in cellulose formate mfr., 641, 904.
- , celluloid cleaned by, 425.
- , cellulose acetate cleaned by, 425.
- , cellulose acetate delustred using, 1013.
- , cellulose acetate toughened by, 866.
- , cellulose acetate treated with, 2315.
- , cellulose ether depolymerized by, 118.
- , cellulose ether precipitant, 2086.
- , cellulose ether purified by, 102, 1462.
- , cellulose ether softener, 2350.
- , cellulose ether strengthened by, 2131, 2134.
- , cellulose ether swelling agent, 254.
- , cellulose ether viscosity reduced by, 1362.
- , cellulose glycollic acid coagulated by, 89.
- , cellulose glycollic acid precipitant, 89.
- , cellulose hydroxyparaffin-monocarboxylic acid coagulated by, 89.
- , cellulose lactic acid coagulated by, 89.
- , cellulose lactic acid precipitant, 89.
- , cellulose pretreated with, 650, 655.
- , cellulose purified by, 1408.
- , cellulose solvent, 692.
- , chlorhydrin ester of, 2628.
- , delustring with, 2192.
- , detecting, 528.
- , estimating, 528.
- , etherifying in presence of, 23.
- , ethylcellulose depolymerized by, 246.
- , ethylcellulose solubilized by, 246.
- , fuming, acetic anhydride made using, 849.

- Sulfuric acid, fuming, see also Oleum.*  
—, lacquer, black, made using, 2414.  
—, mercerizing by, 505.  
—, methyl acetate saponified by, 604.  
—, polymerizing with, 195.  
—, soluble starch made using, 363.  
—, surface tension in spinning lowered by, 708.  
—, viscose treated with, 2315.  
*Sulfuric anhydride, see Sulfur trioxide.*  
*Sulfuric esters, 1680.*  
*Sulfuric ether, see Ethyl ether; Diethyl ether.*  
*Sulfurous acid, catalyst in cellulose formate mfr., 904.*  
—, cellulose ether purified by, 1462.  
—, *see also Sulfur dioxide.*  
*Sulfur oxychloride, cellulose ether clarified by, 182.*  
—, cellulose ether clarity increased by, 1366.  
*Sulfur trioxide, acetic anhydride made using, 508, 522.*  
—, catalyst in cellulose acetate mfr., 805.  
—, cellulose acetylated in presence of, 825.  
—, cellulose treated with, 728.  
—, ethylidene diacetate made using, 855.  
—, methyl sulfate made using, 1258.  
—, starch treated with, 728.  
—, straw treated with, 728.  
—, vinyl acetate made using, 855.  
—, wood treated with, 728.  
*Sulfuryl chloride, 1029, 1680.*  
—, acetic anhydride made using, 508, 845, 1049.  
—, benzyl chloride made using, 1293.  
—, catalyst in cellulose acetate mfr., 421, 480, 693, 823, 919.  
—, catalyst in cellulose acetating, 373, 392, 427.  
—, catalyst in cellulose formate mfr., 389, 641.  
—, cellulose compounds of, mfr., 504.  
—, cellulose mononitro-diacetate using, 585.  
—, cellulose phosphate made using, 666.  
*Sulfuryl chloride, cellulose purified by, 1408.*  
—, cellulose sulfate made using, 666.  
—, methoxyacetic anhydride made with, 186.  
—, trichlorhydrin made using, 539.  
*Sumatra camphor, see Borneol.*  
*Summer prurigo, anthracene-sulfonic acid in treatment of, 2450.*  
—, naphthol-sulfonic acid in treatment of, 2450.  
—, naphthylamine-sulfonic acid in treatment of, 2450.  
*Sunburn, aesculin for protection against, 2541.*  
—, naphtholsulfonic acid for protecting against, 63, 2541.  
—, naphthylamine sulfonic acid for protecting against, 63, 2541.  
—, quinone sulfate for protection against, 2541.  
—, sodium 2-naphthol-3,6-disulfonate for protection against, 2541.  
*Sunculator, 2555.*  
*Sunlight, see Light.*  
*Superbatinase, 892.*  
*Support, cellulose ether, 117.*  
—, foot-arch, celluloid in mfr., 2472.  
—, photographic, cellulose ether for, 53.  
*Suppository, cellulose acetate coated, 439.*  
*Supramin yellow R, 885, 2320.*  
*Surat cotton, see Cotton, Surat.*  
*Surface, cellulose acetate polishing, 439, 930.*  
—, cellulose ester, leveling, 661.  
—, —, polishing, 661.  
—, —, smoothing, 661.  
—, designs on, cellulose ether for, 191.  
—, dull, cellulose ether, producing, 2407.  
—, graining, cellulose ether for, 191.  
—, planographic printing, cellulose acetate for mfr., 1092.  
—, wood filling, cellulose acetate for, 863.  
—, —, —, cocoanut oil for, 863.  
*Surgical dressing, see Dressing, surgical.*  
*Suspension, mfr. of, cellulose ether for, 86, 2447.*  
*Suspensory bandages, see Bandages, suspensory.*

- Swansdown, toe stiffener made using, 630.  
Sweetmeats, benzylcellulose for coating, 159, 1568.  
—, ethylcellulose for coating, 159.  
Switchboard, paper, cellulose acetate impregnated, 691.  
—, —, cellulose nitrate impregnated, 691.  
Switchboard cable, cellulose acetate in mfr. of, 841.  
Sylvane, 1995.  
Sylvestrene, cellulose ether solvent, 106, 2227.  
—, solubilizing agent, 2213, 2219.  
Synthesis, pearl, 2611.  
*Synthetic acetic acid, see Acetic acid, synthetic.*  
*Synthetic camphor, see Camphor, synthetic.*  
*Synthetic glass, see Glass, laminated.*  
*Synthol, see Methyl alcohol, synthetic.*  
Syphilis, cellulose ether in treatment of, 2448.  
Syphons, tops for, cellulose acetate in mfr., 737.
- Table cloth, damask effect on, producing, 2340.  
—, imitation, cellulose acetate in mfr., 996.  
—, mfr., 695.  
Taffeta, 2203.  
—, scroop of, increasing, 935.  
Tag, cellulose acetate in mfr., 652.  
Talc, 82.  
—, card, playing, mfr. using, 2609.  
—, cellulose united with, 538.  
—, emulsion containing, 2543.  
—, lacquer and cellulose ether with, 153.  
—, plaster and cellulose ether with, 153.  
—, plastic containing, 983.  
—, putties and cellulose ether with, 153.  
—, rubber united with, 538.  
—, stencil sheet made using, 2498.  
Talcum, cellulose ether combined with, 2417.  
"Talloel," 564.  
—, hydrogenated, cellulose acetate solvent, 564.
- "Tall oil," esterified, cellulose ester solvent, 253.  
—, —, cellulose ether solvent, 253.  
—, sodium sulfonate of, cellulose ether softener, 234.  
Tallow, 1704.  
—, amines solvent for, 2013.  
—, emulsion containing, 2466.  
—, packing made using, 487.  
—, stencil sheet made using, 2489.  
Tallow oil, cellulose ether softener, 2217.  
Tamasol, 1917.  
—, *see also Butyl acetate.*  
Tamasol II, 1918.  
Tamasol III, 1918.  
Tamasol IV, 1918.  
Tamasol IN, 1918.  
Tamasol J, cellulose acetate solvent, 699.  
—, *see also iso-Butyl acetate.*  
*Tanacetone, see Thujone.*  
Tangerine, cellulose ether dyed, 2293.  
Tannates, dyeing in presence of, 2270.  
Tannic acid, amines solvent for, 2013.  
*Tannigen, see Acetyltannin.*  
Tannin, 1162.  
—, acetic acid action on, 311.  
—, alkylcellulose swelling in water, preventing, 85.  
—, alkylcellulose treated with, 1426.  
—, benzylcellulose loaded with, 137.  
—, cellulose acetate absorption for, 886.  
—, cellulose acetate dyed using, 504, 510, 814.  
—, cellulose acetate printing, use in, 672.  
—, cellulose ester and for artificial leather, 223.  
—, cellulose ether and, 2465.  
—, cellulose ether and for artificial leather, 223.  
—, cellulose ether dyed using, 2236, 2287.  
—, cellulose ether strengthened by, 255.  
—, cellulose ether weighted with, 105, 173, 2152.  
—, cellulose glycollic acid precipitant, 89.

- Tannin**, cellulose hydroxyparaffin-monocarboxylic acid coagulated by, 89.  
 —, cellulose lactic acid precipitant, 89.  
 —, ester of, 311.  
 —, ethylcellulose with, 2465.  
 —, ethylcellulose loaded with, 137.  
 —, film of methylcellulose and, 241.  
 —, leather, artificial, made with cellulose acetate and, 623.  
 —, loading benzylcellulose with salts of, 1584.  
 —, methylcellulose with, 2465.  
 —, methylcellulose loaded with, 137.  
 —, mordanting cellulose ether with, 226.  
 —, synthetic, mfr., 1426.  
 —, tanning using, 2468.  
 —, weighting cellulose acetate with, 767.  
 —, weighting cellulose ether with, 226.  
 —, weighting fabric with, 110.  
 —, *see also Gallotanic acid; Tannic acid.*  
**Tannin substitute**, alkylcellulose treated with, 1426.  
**Tanning**, dimethylcellulose for, 249.  
 —, peat for, 1165.  
*Tannothymal, see Tannithymol-methane.*  
**Tans**, synthetic, 2209.  
 —, —, dyeing in presence of, 548.  
**Tansy oil**, 2044, 2045.  
**Tantalum chloride**, catalyst in ethyl chloride mfr., 1267.  
**Tape**, adhesive, cellulose acetate for mfr., 1033.  
 —, benzylcellulose mfr., 272.  
 —, cellulose acetate, pliability, improving, 935.  
 —, cellulose ether for mfr. of, 2377.  
 —, ethylcellulose, mfr., 272.  
 —, insulating, cellulose acetate in mfr., 527.  
 —, methylcellulose, mfr., 272.  
**Tapestry**, Venetian, cellulose ether for simulating, 108.  
 —, —, simulating, 2363.  
**Tar**, Norway, 1859.  
 —, wood, 1867.  
**Tar-oil**, acetyl bromide with, as plastic, 561.  
 —, benzyl bromide with, as plastic, 561.  
 —, benzylcellulose plastic with, 46.  
**Tar-oil**, bromoform with as plastic, 561.  
 —, carbon tetrachloride with as plastic, 561.  
 —, cellulose acetate solvent, 446.  
 —, cellulose ether plastic with, 64.  
 —, chloral with as plastic, 561.  
 —, condensate containing, 561.  
 —, ethyl chloride with as plastic, 561.  
 —, ethyl iodide with, as plastic, 561.  
 —, lacquer containing, 1036.  
 —, rubber-like masses from, 514.  
**Tartar emetic**, cellulose acetate printing, use in, 672.  
 —, cellulose ether dyed using, 2236.  
 —, loading with, 2153.  
 —, weighting cellulose acetate with, 767.  
**Tartaric acid**, 1157, 1741, 1891, 2330, 2626.  
 —, amines solvent for, 2013.  
 —, cellulose acetate delustred using, 1013.  
 —, cellulose acetate hydrated by, 355.  
 —, cellulose acetate viscosity preserved by, 442.  
 —, cellulose ether, jelling of, prevented by, 1359.  
 —, —, livering of, prevented by, 1349.  
 —, —, precipitating of, prevented by, 1349.  
 —, cellulose ether color discharged by, 218.  
 —, cellulose nitrate solvent, 1893.  
 —, cellulose pretreated with, 1015.  
 —, delustring with, 2192.  
 —, ethylcellulose, jelling of, prevented by, 1349.  
 —, —, livering of, prevented by, 1349.  
 —, —, precipitating of, prevented by, 1349.  
 —, film, cellulose acetate, dyed using, 1006.  
 —, film made using, 2506.  
 —, gelling prevented by, 2410.  
 —, guanin purified by, 2617.  
 —, livering in cellulose ether prevented by, 162.  
 —, livering prevented by, 2410.  
 —, methylcellulose, jelling of, prevented by, 1349.



- Tartaric acid, methylcellulose, livering of, prevented by, 1349.  
—, —, precipitating of, prevented by, 1349.  
Tartaric acid esters, cellulose acetate solvent, 400.  
*Tartaric acid (inactive)*, see *Racemic acid*.  
Tartaric esters, 1950.  
*Tartaric ether*, see *Ethyl tartrate*.  
Tartrazine, 1639, 1747, 1753, 2640.  
—, cellulose acetate dyed using, 683.  
Tautening, phenol-condensate for, 648.  
Tchoubar's method, 1072.  
*T. C. P.*, see *Tri-cresyl phosphate*.  
Tea ball, cellulose acetate in mfr. of, 486.  
Tear gas, cellulose acetate in mfr. of, 520.  
—, container for, 520.  
Teased oil, stencil sheet made using, 976.  
Telephone industry, cellulose acetate uses in, 1023.  
Tellurides, tumors, malignant, treated with, 2446.  
Tellurium, colloidal, mfr., 2448.  
Tellurium emulsion, mfr. of, cellulose ether for, 86.  
Terebene, 1806.  
*Terebentene*, see *Pinene*.  
*Terebinic acid*, see *Terebic acid*.  
Terephthalic acid, 7.  
Terpene, 2044.  
—, cellulose ester coagulated by, 133.  
—, cellulose ether coagulated by, 133, 2085, 2097.  
—, cellulose ether plasticizer, 243.  
—, cellulose ether spinning bath containing, 2083.  
—, delustring with, 2187.  
—, ethylcellulose plasticizer, 243.  
—, filament cleaned by, 257.  
—, film cleaned by, 257.  
—, inversion, delustring using, 2178.  
—, ribbon cleaned by, 257.  
—, solubilizing agent, 2213.  
—, thread cleaned by, 257.  
Terpene alcohols, delustring with, 2187.  
Terpene hydrate, crystal effects produced by, 2430.  
Terpene hydrate, paper coated with cellulose nitrate and, 645.  
Terpene hydrocarbon, cellulose ether treated with, 143.  
Terpine diacetate, formation of, 379.  
Terpine hydrate, 2047.  
Terpinene, 2047.  
Terpineol, 1863, 1927, 1963, 2045.  
—, cellulose solvent, 890.  
—, cellulose acetate softener, 450.  
—, cellulose acetate solvent, 890, 1785, 1818, 1819.  
*a*-Terpineol, 2047.  
Terpineol acetate, 2046.  
—, cellulose ether solvent, 163.  
—, formation of, 379.  
—, paint containing, 163.  
—, varnish containing, 163.  
Terpineol butyrate, 2046.  
—, cellulose ether solvent, 163.  
—, paint containing, 163.  
—, varnish containing, 163.  
Terpineol formate, 2046.  
—, cellulose ether solvent, 163.  
—, paint containing, 163.  
—, varnish containing, 163.  
Terpineol oxalate, 2046.  
Terpineol phthalate, 2046.  
—, cellulose ether solvent, 163.  
—, paint containing, 163.  
—, varnish containing, 163.  
Terpineol salicylate, 2046.  
—, cellulose ether solvent, 163.  
—, paint containing, 163.  
—, varnish containing, 163.  
Terpinolene, 2045.  
Terpinyl acetate, 1927, 1964.  
—, cellulose acetate solvent, 1818, 1819.  
Terra cotta, catalyst in ethyl chloride mfr., 1269.  
—, cellulose acetate dyed, 683.  
*Tetra*, see *Carbon tetrachloride*; *Tetrachlormethane*.  
Tetra-acetanilid, 2022.  
Tetra-acetylcellulose, 321.  
Tetra-acetyldiglucoase, 1937.  
Tetra-acetyllactose, 1937.  
B-Tetra-acetyl-3-methyl-*d*-glucose, 1508.  
*b*-Tetra-acetylisorhamnose, 1498.  
Tetra-alkylammonium chloride, acetic anhydride made using, 865.  
Tetra-alkylammonium phosphate, acetic anhydride made using, 865.

- Tetra-alkylammonium sulfate, acetic anhydride made using, 865.
- 3.7-Tetra-alkyldiaminoxanthrones, cellulose ether dyed using, 2287.
- Tetra-allyl-*a*-methyl glucoside, 1636.
- 1.4.5.8-Tetra-aminoanthraquinone, 2221, 2245, 2634.
- , cellulose acetate dyed using, 643, 718, 846, 879.
- , cellulose ether dyed using, 2251, 2264.
- 1.4.5.8-Tetra-aminoanthraquinone-*N*-methylsulfonic acid, cellulose ether dyed by, 112.
- , ethylcellulose dyed by, 112.
- 4.8.5.1-Tetraamino-5-methylamino-4-hydroxyanthraquinone, cellulose ether dyed using, 2250.
- α*-Tetra-amylose, mfr. of, 101.
- α*-Tetra-amylose acetate, mfr. of, 102.
- Tetrabenzyl-benzylglucoside, 1517.
- , mfr. of, 169.
- Tetrabenzylcellulose composition, 1524.
- , mfr. of, 69.
- Tetrabromcresyl phosphate, 1895, 1899.
- Tetrabromfluorescein*, see *Eosine*.
- leuco*Tetrabromindigo, cellulose acetate dyed using, 638.
- 5.7.5'.7'-Tetrabromindigo paste, 2241, 2315.
- Tetrabromnaphthalene, 1826.
- Tetrabromnaphthyl phosphate, 1895.
- Tetrabromphenyl phosphate, 1895, 1899.
- Tetrabromtricresyl phosphate, 1899.
- Tetrabromxylene, 1826.
- Tetrabromxylenyl phosphate, 1899.
- Tetrabutylene glycol phosphate monoalkyl ether, cellulose ester plasticizer, 300.
- , cellulose ether plasticizer, 300.
- Tetrabutylene glycol phosphate monoamyl ether, cellulose ester plasticizer, 300.
- , cellulose ether plasticizer, 300.
- Tetrabutylene glycol phosphate monobutyl ether, cellulose ester plasticizer, 300.
- , cellulose ether plasticizer, 300.
- Tetrabutylene glycol phosphate monoethyl ether, cellulose ester plasticizer, 300.
- , cellulose ether plasticizer, 300.
- Tetrabutylene glycol phosphate monopropyl ether, cellulose ester plasticizer, 300.
- , cellulose ether plasticizer, 300.
- Tetracetylcellulose*, see *Cellulose tetracetate*.
- Tetracetyl dextrose, 372.
- Tetracetyl-*b*-ethylglucoside, 2.
- Tetracetyl mannite*, see *Mannite tetracetate*.
- Tetracetyl-methylglucoside, 2.
- Tetracetylmucic acid, 330.
- Tetracetylquinic acid, 320.
- Tetrachloracetanilid, cellulose ether plastic with, 64.
- Tetrachloramidine, 2019.
- Tetrachloranthracene, 1828.
- , cellulose acetate inflammability reduced by, 506.
- , cellulose ether combined with, 47.
- , cellulose nitrate inflammability reduced by, 506.
- v*-Tetrachlorbenzene, 2019.
- Tetrachlorcresyl phosphate, 1895, 1899.
- Tetrachlorethane, 278, 282, 438, 513, 514, 1701, 1709, 1815, 1816, 1824, 1851, 1885, 1910, 1974, 1990, 1994, 2032, 2054, 2059, 2625.
- , acetic anhydride solvent, 768.
- , amyl alcohol as substitute for, 430.
- , benzylcellulose lacquer containing, 1588.
- , benzylcellulose solvent, 178, 1540, 1555, 1588.
- , benzylcellulose with, 1571.
- , butyl alcohol with as cellulose ether solvent, 97.
- , celluloid substitute made containing, 468.
- , cellulose acetate containing, 477.
- , cellulose acetate plastifier, 383, 391.
- , cellulose acetate solubility in, 1783.

- Tetrachlorethane, cellulose acetate solvent, 343, 375, 385, 397, 402, 407, 421, 423, 433, 437, 440, 445, 453, 458, 469, 472, 473, 477, 1016, 1039, 1055, 1692, 1819.
- , cellulose acetate stabilizer, 734.
  - , cellulose acetate swelling agent, 912, 1014.
  - , cellulose dilaurate solvent for, 538.
  - , cellulose dipalmitate solvent for, 538.
  - , cellulose distearate solvent for, 538.
  - , cellulose ether dyeing using, 2239, 2323.
  - , cellulose ether gelatinate, 2101.
  - , cellulose ether plastic with, 64.
  - , cellulose ether softener, 2133.
  - , cellulose ether solvent, 2227, 2351.
  - , cellulose trilaurate solvent for, 538.
  - , cellulose tripalmitate solvent for, 538.
  - , cellulose tristearate solvent for, 538.
  - , chlorhydrins made using, 503.
  - , disinfecting gas containing, 439.
  - , dye solvent, 684.
  - , elemi solvent, 473.
  - , ethyl alcohol with as cellulose ether solvent, 97.
  - , ethyl cellulose solvent, 18, 19, 20, 21, 178.
  - , fabric waterproofed by, 482.
  - , glass, laminated, made using, 517.
  - , lacquer solvent, 384.
  - , mfr., 446, 548, 563.
  - , methyl alcohol with, as cellulose ether solvent, 97.
  - , methylcellulose solvent, 145, 178, 1307.
  - , oil removed by, 158.
  - , pearl essence made using, 2618.
  - , physical constants, 1792.
  - , plastic made containing, 2566.
  - , poisoning by, 453.
  - , propyl alcohol with as cellulose ether solvent, 97.
  - , screen, fluorescent, made using, 2541.
  - , ship bottom paint containing, 556.
  - , solubilizing agent, 2212, 2219.
- Tetrachlorethane, starch ether, solvent, 1483, 1484.
- , toxicity of, 429, 555.
  - , trichlorethylene made from, 541.
  - , trimethylcellulose solvent, 1315, 1319.
  - , triphenyl phosphate and as solvent, 1901.
  - , viscosity cellulose acetate in depressing, 924.
  - , viscosity cellulose esters in, 926.
  - , waterproofing compound containing, 575.
  - , window curtain mfr. using, 820.
  - , *see also Carbon bichloride.*
- s-Tetrachlorethane, 1318.
- , cellulose acetate solvent, 1692.
  - , starch triacetate solvent, 739.
- Tetrachlorethane-alcohol, ethylcellulose xanthanilide solvent, 1644.
- Tetrachlorethylacetanilid, 1838, 2022, 2037.
- , cellulose acetate solvent, 407, 469, 470, 1692, 1818, 1843.
- Tetrachlorethylene, 1403, 1825, 1961.
- , cellulose acetate lacquer containing, 730.
  - , cellulose acetate solvent, 813.
  - , *see also Carbon bichloride; Perchlorethylene.*
- Tetrachlorethylenedichloride, *see Carbon trichloride.*
- Tetrachlorinated ethane, *see Tetrachlorethane.*
- Tetrachlormethane, 1759, 1812, 1813.
- s-Tetrachlormethane, 1557.
- Tetrachlormethylmethane, 1759.
- Tetrachloronaphthalene, 1826, 1827, 1828, 1981.
- , benzylcellulose solvent, 224.
  - , cellulose acetate inflammability reduced by, 506.
  - , cellulose ether combined with, 47.
  - , cellulose nitrate inflammability reduced by, 506.
  - , p-chlorbenzylcellulose solvent, 224.
  - , phenylethylcellulose solvent, 224.
  - , stencil made using, 1569.

- Tetrachlornaphthalene, stencil sheet made using, 628, 2494.  
Tetrachlornaphthyl phosphate, 1895.  
Tetrachlorphenyl phosphate, 1895, 1899.  
Tetrachlorphthalic acid, cellulose acetate dyed using, 662.  
—, cellulose ether dyed using, 2280.  
*Tetrachlorquinone*, see *Chloranil*.  
Tetrachlortoluene, 1826.  
Tetrachlorxylenyl phosphate, 1899.  
*Tetracol*, see *Carbon tetrachloride*.  
Tetradecamethylmaltotetraose, 1131.  
Tetradecanaphthalene, solubilizing agent, 2219.  
Tetradecanaphthene, solubilizing agent, 2213.  
Tetradecyl acetate, 1929.  
Tetraethylammonium hydroxide, 1748, 2029.  
—, cellulose solvent, 91.  
Tetraethylammonium iodide, amines solvent for, 2013.  
Tetraethylbiose anhydride, 72, 1369.  
Tetraethyl cellulose alkyl content, 1304.  
Tetraethyldiaminoxanthone, cellulose ether dyed using, 2287.  
Tetraethylene glycol, 1849.  
—, plastic made containing, 2565.  
—, properties, 1848.  
Tetraethyleneglycol benzoate, plastic made containing, 2565.  
Tetraethylene glycol dihydrogen phosphate, monoethyl ether of, 1855.  
Tetraethyleneglycol ethyl ether, 1849.  
Tetraethyleneglycol monoamyl phosphate, 1855, 1898.  
Tetraethyleneglycol monobutyl phosphate, 1855.  
Tetraethyleneglycol monoethyl ether, properties, 1848.  
Tetraethyleneglycol monoethyl phosphate, 1855, 1898.  
Tetraethyleneglycol monomethyl phosphate, 1855, 1898.  
Tetraethyleneglycol monopropyl phosphate, 1855, 1898.  
Tetraethylene glycol phosphate, plasticizer, 300.  
Tetraethylene glycol phosphate monoalkyl ether, cellulose ester plasticizer, 300.  
—, cellulose ether plasticizer, 300.  
Tetraethylene glycol phosphate monoamyl ether, cellulose ester plasticizer, 300.  
—, cellulose ether plasticizer, 300.  
Tetraethylene glycol phosphate monobutyl ether, cellulose ester plasticizer, 300.  
—, cellulose ether plasticizer, 300.  
Tetraethylene glycol phosphate monopropyl ether, cellulose ester plasticizer, 300.  
—, cellulose ether plasticizer, 300.  
Tetraethyl glycol, 1839.  
Tetraethylhexane-1,6-diol, wetting out agent, 1236.  
Tetraethyl lead, amines solvent for, 2013.  
—, cellulose ether combined with, 272.  
Tetraethyl titanate, cellulose ether combined with, 272.  
—, delustring with, 2181.  
Tetraethylurea, lacquer containing, 2395.  
Tetrafluorbenzene, 1826.  
Tetrafluorcresyl phosphate, 1895.  
Tetrafluornaphthalene, 1826.  
Tetrafluornaphthyl phosphate, 1895.  
Tetrafluorphenyl phosphate, 1895.  
*Tetraform*, see *Carbon tetrachloride*.  
Tetraglucosan, 1509.  
1,2,5,8-Tetrahydroanthraquinone, cellulose ether dyed using, 2255.  
Tetrahydrobenzyl ketone, 1182, 1888, 1983.  
Tetrahydrocumene, 1828, 2055.  
Tetrahydrocymene, 1828, 2055.  
Tetrahydro-*p*-dioxin, 1877.  
Tetrahydrofurfuryl acetate, 2000.  
Tetrahydrofurfuryl alcohol, 1848, 1999, 2000.  
—, cellulose ether solvent, 112.  
—, constants, 1997.

- Tetrahydrofurfuryl alcohol, dilution ratios, 1997.  
—, solubility resins in, 1997.  
Tetrahydrofuryl laurate, 2000.  
Tetrahydrofuryl oleate, 2000.  
Tetrahydrofuryl palmitate, 2000.  
Tetrahydrofuryl ricinoleate, 2000.  
Tetrahydrofuryl stearate, 2000.  
*ar*-Tetrahydrohydronaphthol, cellulose ether solvent, 2543.  
—, rubber solvent, 2543.  
Tetrahydromethylpropylbenzene, 1890.  
Tetrahydronaphthalene, 66, 1115, 1158, 1231, 1808, 1828, 1850, 2182.  
—, acetic acid extracted by, 670.  
—, acetone recovered by absorption in, 947.  
—, amines solvent for, 2013.  
—, celluloid solvent, 890.  
—, cellulose acetate depolymerized by, 704.  
—, cellulose acetate lacquer containing, 519.  
—, cellulose acetate solvent, 539, 890, 1785.  
—, cellulose and, 704.  
—, cellulose ester coagulated by, 133.  
—, cellulose ether coagulated by, 133, 2085, 2097.  
—, cellulose ether diluent, 156.  
—, cellulose ether dyed using, 2288.  
—, cellulose ether plasticizer, 96.  
—, cellulose ether spinning bath containing, 2083.  
—, cellulose ether solvent, 106, 1784, 1809.  
—, cellulose pretreated with, 259.  
—, composition, 515.  
—, delustring with, 2182.  
—, dye solvent, 684.  
—, ethylcellulose, crystalline, solvent, 1336.  
—, ethylcellulose solvent, 1335.  
—, filament cleaned by, 257.  
—, film cleaned by, 257.  
—, flash point, 2061.  
—, glass, laminated made using, 2586.  
—, ink containing, 2547.  
—, properties, 515.  
—, ribbon cleaned by, 257.  
—, rubber solvent, 539.  
—, sizing with, 2141.  
—, stencil sheet made using, 2488.  
—, thread cleaned by, 257.  
Tetrahydronaphthalene, trimethylcellulose solvent, 1315.  
—, varnish containing, 2637.  
1,2,3,4-Tetrahydronaphthalene, 1808.  
Tetrahydronaphthalenesulfamide, 1828.  
Tetrahydronaphthalenesulfoacid cresyl ester, 1828.  
Tetrahydronaphthalenesulfoethylamide, 1828.  
1-Tetrahydronaphthalenesulfoethylamide, 1828.  
2-Tetrahydronaphthalenesulfoethylamide, 1828.  
*a*-Tetrahydronaphthalenesulfonamides, cellulose ether solvent, 66.  
—, mfr. of, 66.  
*b*-Tetrahydronaphthalenesulfonamides, cellulose ether solvent, 66.  
—, mfr. of, 66.  
Tetrahydronaphthalene sulfonate, cellulose ether solvent, 65.  
*a*-Tetrahydronaphthalenesulfonic chlorides, cellulose ether solvent, 66.  
—, mfr. of, 66.  
*b*-Tetrahydronaphthalenesulfonic chlorides, cellulose ether solvent, 66.  
—, mfr. of, 66.  
1-Tetrahydronaphthalenesulfooxyethylamide, 1828.  
2-Tetrahydronaphthalenesulfooxyethylamide, 1828.  
Tetrahydronaphthalin, cellulose ether dyeing using, 2238, 2288.  
1-Tetrahydronaphthalinsulfamid, cellulose acetate plastifier, 534.  
2-Tetrahydronaphthalinsulfamid, cellulose acetate plastifier, 534.  
1-Tetrahydronaphthalinsulfoxethylamid, cellulose acetate plastifier, 534.  
2-Tetrahydronaphthalinsulfoxethylamid, cellulose acetate plastifier, 534.  
Tetrahydronaphthol, 1928.  
—, cellulose ether solvent, 106.  
*ar*-Tetrahydronaphthol, rubber solvent, 593.  
Tetrahydro-*b*-naphthol, cellulose ester coagulated by, 133.  
—, cellulose ether coagulated by, 133, 2097.  
Tetrahydronaphthol abietate, 1955.

- Tetrahydronaphthol acetate, 1929, 2023.  
—, cork with as plastic, 153.  
*ar*-Tetrahydronaphthol acetate, cellulose ether softener, 68.  
Tetrahydronaphthol ester, cellulose ether softener, 68.  
*ar*-Tetrahydronaphthylamine, cellulose ester dyed using, 220.  
—, cellulose ether dyed using, 220, 2254.  
*ar*-Tetrahydro-*a*-naphthylamine, cellulose ester dyed using, 219, 220.  
—, cellulose ether dyed using, 219, 220, 2254, 2269.  
*ar*-Tetrahydro-*b*-naphthylamine, cellulose ester dyed using, 219.  
—, cellulose ether dyed using, 219, 2269, 2294.  
*Tetrahydro-B-naphthylamine, see Hydronaphthylamine.*  
*ar*-Tetrahydronaphthyl group, cellulose ester dyed using, 219.  
—, cellulose ether dyed using, 219, 2269.  
2,6-Tetrahydropyrone, 1986.  
Tetrahydrotoluene, 1828, 2055.  
1,2,5,8-Tetrahydroxyanthraquinone, cellulose acetate dyed using, 777.  
*leuco*-1,4,5,8-Tetrahydroxyanthraquinone, cellulose acetate dyed using, 676, 1011.  
Tetrahydroxylene, 1828, 2055.  
Tetrahydroxystearic acid, pentaerythrite condensate of, 303.  
Tetraiodocresyl phosphate, 1895, 1899.  
*Tetraiodofluorescein, see Erythrosine.*  
Tetraiodonaphthyl phosphate, 1895.  
Tetraiodophenyl phosphate, 1895, 1899.  
Tetraiodoxylenyl phosphate, 1899.  
Tetrakisazo dye, solubilizing, 2211.  
*Tetrakol, see Carbon tetrachloride.*  
Tetralin, 1808.  
—, benzylcellulose solvent, 1555.  
—, cellulose ether dyed using, 2291.  
—, lacquer containing, 2423.  
—, *see also Tetrachlorethane; Tetrahydronaphthalene.*  
Tetralkylammonium chloride, acetic anhydride made using, 770.  
Tetralkylammonium phosphate, acetic anhydride made using, 770.  
Tetralkylammonium sulfate, acetic anhydride made using, 770.  
Tetralkylene glycol phosphate monoalkyl ether, cellulose ester plasticizer, 300.  
—, cellulose ether plasticizer, 300.  
Tetralkylene glycol phosphate monoamyl ether, cellulose ester plasticizer, 300.  
—, cellulose ether plasticizer, 300.  
Tetralkylene glycol phosphate monobutyl ether, cellulose ester plasticizer, 300.  
—, cellulose ether plasticizer, 300.  
Tetralkylene glycol phosphate monoethyl ether, cellulose ester plasticizer, 300.  
—, cellulose ether plasticizer, 300.  
Tetralkylene glycol phosphate monomethyl ether, cellulose ester plasticizer, 300.  
—, cellulose ether plasticizer, 300.  
Tetralkylene glycol phosphate monopropyl ether, cellulose ester plasticizer, 300.  
—, cellulose ether plasticizer, 300.  
Tetralol acetate, 1929.  
Tetramethylammonium hydroxide, 1748.  
—, cellulose solvent, 91.  
Tetramethylammonium iodide, 1749.  
—, cellulose etherified using, 274.  
*sym-Tetramethylbenzen, see Durene.*  
Tetramethylbenzidine, cellulose ester dyed using, 264.  
—, cellulose ether dyed using, 264, 2269.  
*Tetramethylbenzol, see Durene.*  
Tetramethyl cellulose, alkyl content, 1304.  
Tetramethyldextrose, 1510.  
Tetramethyldiaminobenzhydrol, cellulose acetate dyed using, 675.  
4,4'-Tetramethyl-diaminobenzhydrol, cellulose ether dyed with, 161, 2296.  
Tetramethyldiaminobenzophenone, amines solvent for, 2013.  
—, cellulose ether film containing, 2512.  
Tetramethyl-4,4'-diaminodiphenylmethane, cellulose ester dyed using, 264.  
—, cellulose ether dyed using, 264, 2269.

- Tetramethyldiaminoxanthone, cellulose ether dyed using, 2287.  
 Tetramethyldiamylose, mfr. of, 101.  
 Tetramethylene, 1979.  
 Tetramethylenecyclobutane, 1980.  
 Tetramethylenediamine, 1749.  
 Tetramethylenediaminecellulose, 1749.  
*Tetramethylene glycol, see Butylene glycol.*  
 Tetramethylene glycol phosphate monoalkyl ether, cellulose ester plasticizer, 300.  
 —, cellulose ether plasticizer, 300.  
 Tetramethylene glycol phosphate monoamyl ether, cellulose ester plasticizer, 300.  
 —, cellulose ether plasticizer, 300.  
 Tetramethylene glycol phosphate monobutyl ether, cellulose ester plasticizer, 300.  
 —, cellulose ether plasticizer, 300.  
 Tetramethylene glycol phosphate monoethyl ether, cellulose ester plasticizer, 300.  
 —, cellulose ether plasticizer, 300.  
 Tetramethylene glycol phosphate monomethyl ether, cellulose ester plasticizer, 300.  
 —, cellulose ether plasticizer, 300.  
 Tetramethylene glycol phosphate monopropyl ether, cellulose ester plasticizer, 300.  
 —, cellulose ether plasticizer, 300.  
 Tetramethylethylene, cellulose ether solvent, 2227.  
 —, solubilizing agent, 2213, 2219.  
 Tetramethylethylene chlorhydrin, cellulose etherified by, 1401.  
 Tetramethylethylene glycol, 1838.  
 —, *see also Pinacone.*  
*Tetramethylethyleneglycol diacetate, see Pinacone.*  
 1.2.3.4.-Tetramethyl-5-ethylmannitol, 1504.  
 Tetramethylfructose, 42, 1320, 1497, 1498, 1506.  
 —, mfr. of, 102.  
 1.3.4.5.-Tetramethylfructose, 1498, 1500, 1506, 1507.  
 1.3.4.6.-Tetramethylfructose, 1500.  
 Tetramethylgalactonic acid, 1503.  
 2.3.5.6.-Tetramethylgalactonolactone, 1503.  
 Tetramethylgalactose, 1502.  
 2.3.4.6.-Tetramethylgalactose, 1502, 1503.  
 Tetramethylgalactose anilid, 1502.  
 Tetramethylgalactoside, 1502, 1507.  
 Tetramethylgluconic acid, 1509.  
 Tetramethylgluconolactone, 43, 1497, 1509.  
 Tetramethylglucopyranose, 1324.  
 2.3.4.6.-Tetramethylglucopyranose, 1509.  
 Tetramethylglucose, 2, 31, 42, 1126, 1311, 1312, 1480, 1509, 1510.  
*b*-Tetramethylglucose, 1126.  
 2.3.4.6.-Tetramethylglucose, 1312, 1320, 1499.  
 2.3.5.6.-Tetramethylglucose, 1499.  
 Tetramethylglucoseanilid, 80.  
 Tetramethylglucose 1-chlorhydrin, mfr. of, 230.  
 Tetramethylglucoside, 125, 279.  
 Tetramethylhexitol, 1507.  
*ab*-Tetramethylhexose, 1506.  
 2.4.5.6.-Tetramethylmannitol, 1504.  
 2.4.5.6.-Tetramethylmannitolmonoacetone, 1504.  
 3.4.5.6.-Tetramethylmannonic acid, 1504.  
 2.3.4.6.-Tetramethylmannonic acid, 1504.  
 Tetramethylmannonolactone, 1500.  
*d*-2.3.4.6.-Tetramethylmannonolactone, 1504.  
 Tetramethylmannose, 1504.  
 Tetramethylmannoside, 1507.  
 —, mfr. of, 42.  
 Tetramethylmethylfructoside, 1505, 1509.  
 Tetramethyl-*b*-methylfructoside, 1506.  
 1.3.4.5.-Tetramethyl-*a*-methylfructoside, 1507.  
 1.3.4.5.-Tetramethyl-*b*-methylfructoside, 1506.  
 Tetramethylmethylgalactoside, 1128.  
 Tetramethyl-*a*-methylgalactoside, 1502, 1503.  
 Tetramethyl-*b*-methylgalactoside, 1502.  
 Tetramethylmethylglucopyranoside, 1324.  
 Tetramethylmethylglucoside, 37, 1306, 2621.  
 Tetramethyl-*a*-methylglucoside, 2, 1507, 1509.  
 —, mfr. of, 42.  
 Tetramethyl-*v*-methylglucoside, 43.  
*a*-Tetramethylmethylglucoside, 1128.

- b*-Tetramethylmethylglucoside, 1128.  
 2.3.5.6-Tetramethyl-*b*-methylglucoside, 1128.  
 Tetramethyl-*b*-methylhexoside, 1506.  
 Tetramethyl-*a*-methylmannoside, 1102.  
 2.3.4.6-Tetramethyl-*a*-methylmannoside, 1504.  
 2.3.4.6-Tetramethyl-*b*-methylmannoside, 1504.  
 Tetramethylpentitol, 43, 1509.  
 Tetramethylsorbitol, 43, 1509.  
 Tetramethyl starch, 1471.  
 Tetramethylthiocarbamide, cellulose ester dyed using, 264.  
 —, cellulose ether dyed using, 264, 2269.  
 Tetramethylthiouran disulfide, butylcellulose and, 1340.  
 Tetramethylurea, lacquer containing, 2395.  
 Tetraminoanthraquinone, cellulose ether dyed with, 165, 2274.  
 1.4.5.8-Tetramino-anthraquinone, cellulose acetate dyed with, 492, 814.  
 —, cellulose ester dyed with, 197.  
 —, cellulose ether dyed with, 197, 2274.  
 —, printing fabric with, 1000.  
 Tetramylene glycol phosphate monoalkyl ether, cellulose ester plasticizer, 300.  
 —, cellulose ether plasticizer, 300.  
 Tetramylene glycol phosphate monoamyl ether, cellulose ester plasticizer, 300.  
 —, cellulose ether plasticizer, 300.  
 Tetramylene glycol phosphate monobutyl ether, cellulose ester plasticizer, 300.  
 —, cellulose ether plasticizer, 300.  
 Tetramylene glycol phosphate monoethyl ether, cellulose ester plasticizer, 300.  
 —, cellulose ether plasticizer, 300.  
 Tetramylene glycol phosphate monomethyl ether, cellulose ester plasticizer, 300.  
 —, cellulose ether plasticizer, 300.  
 Tetramylene glycol phosphate monopropyl ether, cellulose ester plasticizer, 300.  
 —, cellulose ether plasticizer, 300.  
*b*-Tetranaphthyl urea, delustring with, 2185.  
 Tetrane, 1995.  
 Tetranitroacridine, cellulose acetate dyed using, 602.  
 —, cellulose ether dyed using, 2295.  
 Tetranitroanthraquinone, *see* *Aloetic acid*.  
 Tetranitrodioxyanthraquinone, *see* *Chrysamminic acid*.  
 2.4.2'.4'-Tetranitrodiphenylurea, cellulose ether dyed using, 2286.  
 Tetranitromethane, 1815.  
 —, celluloid solvent, 890.  
 —, cellulose acetate solvent, 890, 1785.  
 —, solvent, 1801.  
 Tetranitrotriraphthyl phosphate, 1896.  
 Tetranitrotriraphthyl thiophosphate, 1896.  
 Tetrapentapropylene, 1853.  
 Tetraphenol, 1995.  
 Tetraphenylcellulose, 6.  
 —, distillation of, 7.  
 Tetraphenylcellulose nitrate, 7.  
 —, oxidation of, 7.  
 Tetraphenylcellulose sulfonate, 7.  
 Tetraphenyl lead, amines solvent for, 2013.  
 Tetraphenylmethane, amines solvent for, 2013.  
 Tetraphenylurea, 2030.  
 —, lacquer containing, 2395.  
 Tetrapol, cellulose ether dyed using, 2291.  
 Tetrapropyl cellulose, alkyl content, 1304.  
 Tetrapropylene glycol phosphate monoalkyl ether, cellulose ester plasticizer, 300.  
 —, cellulose ether plasticizer, 300.  
 Tetrapropylene glycol phosphate monoamyl ether, cellulose ester plasticizer, 300.  
 —, cellulose ether plasticizer, 300.  
 Tetrapropylene glycol phosphate monobutyl ether, cellulose ester plasticizer, 300.  
 —, cellulose ether plasticizer, 300.  
 Tetrapropylene glycol phosphate monoethyl ether, cellulose ester plasticizer, 300.  
 —, cellulose ether plasticizer, 300.



- Tetrapropylene glycol phosphate  
   monomethyl ether, cellulose ester  
   plasticizer, 300.  
 —, cellulose ether plasticizer, 300.  
 Tetrapropylene glycol phosphate  
   monopropyl ether, cellulose ester  
   plasticizer, 300.  
 —, cellulose ether plasticizer, 300.  
 Tetraricinoleic ester, mfr., 591.  
 Tetrasaccharide, 1116.  
 Tetrazine, 1641.  
 Tetrol, 1995.  
 Tetroxide, acetic anhydride made  
   using, 497.  
*Tetroxydiphenyl, see Diresorcin.*  
*Tetroxystearinic acid, see Tetra-*  
*oxystearic acid.*  
 Textile, acylating, 990.  
 —, airplane, tautening, cellulose  
   acetate for, 449.  
 —, benzylcellulose coated, mfr.,  
   1593.  
 —, casein for waterproofing, 645.  
 —, cellulose acetate, cellulose ni-  
   trate and, 591.  
 —, —, conditioning, 956.  
 —, —, defects in, 1015.  
 —, —, ironing, 1001.  
 —, —, ironing point of, 955.  
 —, —, lubricating, 1023.  
 —, —, luminescent, mfr., 962.  
 —, —, pattern on, 955.  
 —, —, phosphorescent, mfr., 962.  
 —, —, water adhesion of, 966.  
 —, cellulose ester, printing on, 251.  
 —, cellulose ether, discharge effect  
   on, 218.  
 —, —, printing on, 251, 298.  
 —, cellulose nitrate, cellulose ace-  
   tate and, 591.  
 —, —, cellulose and, 591.  
 —, chlorhydrins action on, 90.  
 —, coating, cellulose acetate for,  
   375.  
 —, crepe, mfr., 2332.  
 —, dextrin for waterproofing, 645.  
 —, 1,2-dihydroxypropylcellulose  
   used in, 169.  
 —, etherification, superficial, 1414.  
 —, etherifying, 85, 1384.  
 —, feel, modifying, 1416.  
 —, fluffy, cellulose acetate for pre-  
   venting, 630.  
 —, fluorescent effect on, producing,  
   2362.  
 —, gl'colcellulose from, mfr., 1384.  
 —, hemicellulose in, 1182.  
 Textile, hydroxyalkylcellulose  
   from, mfr., 1384.  
 —, hydroxyalkylcellulose used in,  
   169.  
 —, hydroxyethylcellulose used in,  
   169.  
 —, imitation, cellulose acetate in  
   mfr., 457.  
 —, iridescent effect on, producing,  
   2362.  
 —, luster, modifying, 1416.  
 —, matt effect on, cellulose ether  
   for, 286.  
 —, metallization of, 2361, 2362.  
 —, ornamental effects on, 2352.  
 —, oxyalkylcellulose used in, 169.  
 —, palmitating, 1719.  
 —, pattern effects on, 2342.  
 —, printing on, 298, 456.  
 —, scintillating effect on, produc-  
   ing, 2362.  
 —, silicate for waterproofing, 645.  
 —, silvery effect on, producing,  
   2362.  
 —, sodium carbonate for water-  
   proofing, 645.  
 —, stearating, 1719.  
 —, tautening, cellulose acetate for,  
   449.  
 —, warp effects on, cellulose pro-  
   pionate for, 1698.  
 —, waterproof, cellulose ester in  
   mfr. of, 488.  
 —, waterproofing of, 2435.  
 —, —, cellulose acetate for, 645,  
   894.  
 —, *see also Fabrics.*  
*Textile cements, see Cements, tex-*  
*tile.*  
 Textile-test H, 967.  
*Thanatol, see Pyrocatechin mono-*  
*methyl ether.*  
*Theine, see Caffeine.*  
 Thermodin, 1955.  
*Thermoplastic, see Plastic.*  
*Thermoplastic cellulose acetate, see*  
*Cellulose acetate, thermoplastic.*  
 Thermoplastifier, definition of,  
   1789.  
 Therose, 1497.  
 Therox, 487, 555.  
 —, mfr., 2480.  
 Thiazines, cellulose ether dyed us-  
   ing, 2244.  
 Thiazoles, benzylcellulose stabil-  
   izer, 1564.  
 —, cellulose ether dyed using, 2286.

- Thiazoles, cellulose ether softener, 2216.
- Thickener, cellulose ester as, 239.
- , cellulose ether as, 239.
- Thickener M, 2241.
- Thickening A, 2240.
- Thickening B, 2240.
- Thickening M, 2240.
- , cellulose ether dyed using, 2303.
- , *see also Methylcellulose*.
- Thin-boiling starch, see Starch, soluble.*
- Thioacetaldehyde, see Sulfaldehyde.*
- Thioacetic acid, celluloid solvent, 890.
- , cellulose acetate solvent, 890.
- , mfr., 509.
- Thioalcohol, see Ethyl mercaptan.*
- Thioallyl ether, see Allyl sulfide.*
- Thiocarbamide, 2633.
- , alkylated, cellulose ester dyed using, 264.
- , —, cellulose ether dyed using, 264.
- , aminoarylated, cellulose ether dyed with, 179.
- , aralkylated, cellulose ester dyed using, 264.
- , —, cellulose ether dyed using, 264.
- , arylated, cellulose ester dyed using, 264.
- , —, cellulose ether dyed using, 264.
- , cellulose ether dyed using, 2269.
- , nitroarylated, cellulose ether dyed with, 179.
- , unsulfonated, cellulose ether dyed with, 179.
- Thiocarbanilid, 1968, 1994, 2024.
- , cellulose ether plastifier, 173.
- Thiocarbimides, cellulose ether softener, 2155.
- Thiocarbobenzidine, delustring by, 274, 2185.
- Thiocarbonylbenzidine, cellulose acetate delustred by, 962.
- Thiocarbonyl chloride, see Thiophosgene.*
- Thiocellobiose, 733.
- Thiocellobiose hepta-acetate, 733.
- Thiocellobiose octa-acetate, 733.
- Thiocellobioside, 733.
- Thiocyanate, cellulose acetate delustred by, 776.
- , cellulose acetate dissolved by, 1136.
- Thiocyanate, cellulose acetate solvent, 456, 531, 537, 676.
- , cellulose diformate solvent, 1017.
- , cellulose dissolved by, 1136.
- , cellulose ether dissolved by, 1136.
- , cellulose ether solvent, 2221.
- , loading benzylcellulose with salts of, 1584.
- Thiocyanic acid, 1689.
- Thiodiglycol, cellulose acetate softener, 555.
- Thiodiglycol phthalate, 1976.
- Thiodiglycol sulfate, cellulose acetate softener, 555.
- Thioether, hydroxylated, cellulose ether dyed with, 142.
- Thioflavine T, benzylcellulose dyed by, 62.
- , cellulose ester dyed by, 62.
- , cellulose ether dyed using, 2225.
- , ethylcellulose dyed by, 62.
- , methylcellulose dyed by, 62.
- Thioglycerol, cellulose acetate plasticizer, 342.
- Thioglycollic acid, 1642.
- Thioglycollic esters, 1941.
- Thioglycol phthalate, cellulose acetate softener, 533.
- Thioindigo, cellulose ether dyed using, 2253.
- Thioindigo dye, cellulose acetate dyed using, 597.
- Thioindigo violet 2B, dyeing with, 2243.
- Thioindoxyl, S-oxide of, cellulose ether dyed using, 148, 2262.
- Thioindoxylcarboxylic acid, 2634.
- Thioisatin  $\alpha$ -bromide, 2633.
- Thiolactic acid, 1643.
- Thiomalic acid, 1643.
- Thiomethane alcohol ester, 1759.
- Thional black T, threads, effect, dyed by, 2331.
- Thionaphthene, 2633.
- 2-Thionaphtheneacenaphthylene indigo, 2634.
- 2-Thionaphthene-2'-naphthalene indigo, 2634.
- Thionhydroxyparaffin monocarboxylic acid, 1763.
- Thionol Direct Blue S, dyeing with, 2243.
- Thionyl chloride, 1398, 1677, 1699, 1725, 1736, 1739, 1753, 1754.

- Thionyl chloride, acetic anhydride made using, 534.
- , benzylcellulose viscosity reduced by, 1560.
  - , catalyst in cellulose acetate mfr., 667, 780.
  - , cellulose compounds of, mfr., 504.
  - , cellulose glycollate etherified by, 273.
  - , cellulose glycollate treated with, 273.
  - , cellulose malate etherified by, 273.
  - , cellulose malate treated with, 273.
  - , cellulose maleate etherified by, 273.
  - , cellulose maleate treated with, 273.
  - , cellulose malonate etherified by, 273.
  - , cellulose malonate treated with, 273.
  - , cellulose oxalate etherified by, 273.
  - , cellulose oxalate treated with, 273.
  - , cellulose phthalate etherified by, 273.
  - , cellulose phthalate treated with, 273.
  - , cellulose purified by, 1408.
  - , cellulose treated with, 565.
- Thio-oxy-*a*-butyric acid, 1643.
- Thio-oxy-diphenylamine, *see* *Sulfaminol*.
- Thiophene, 1730, 2633.
- , celluloid solvent, 890.
  - , cellulose acetate solvent, 890, 1785.
- Thiophenyl ethers, methyl sulfate in mfr. of, 1264.
- monoThiopyroglycide, cellulose acetate plasticizer, 342.
- Thiopyronine, cellulose acetate dyed using, 546.
- , cellulose ether dyed using, 2258.
- Thiosinamine, *see* *Allyl sulfocarbamide*.
- Thioisotrehalose, 842.
- Thioisotrehalose octo-acetate, 842.
- Thiourea, 1087, 1645, 1748, 2030, 2054.
- , benzylcellulose loaded with, 1590.
- Thiourea, cellulose acetate swelling agent, 636.
- , cellulose dixanthate combined with, 148.
  - , cellulose ester swelled by, 132.
  - , cellulose ether dyed using, 2286, 2295.
  - , cellulose ether precipitant, 2087.
  - , cellulose ether softener, 2155, 2217.
  - , cellulose ether solvent, 141, 186.
  - , cellulose ether swelled by, 132.
  - , cellulose xanthate combined with, 148.
  - , condensate, cellulose acetate with, 923.
  - , delustring by, 932.
  - , dispersing agent for, 2214.
  - , dull effect produced using, 2363.
  - , ethylcellulose loaded with, 1590.
  - , matt effect produced using, 2363.
  - , methyl sulfate in mfr. of, 1264.
  - , softener, 2215.
  - , stabilizer, 1564.
  - , starch xanthate combined with, 148.
  - , *see also* *Thiocarbamide*.
- Thiourea-acetal condensate, 119.
- Thiourea-acetophenone condensate, 119.
- Thiourea-benzyl alcohol condensate, 119.
- Thiourea-butylene glycol condensate, 119.
- Thiourea-ethyl alcohol condensate, 119.
- Thiourea-glycerol condensate, 119.
- Thiourethane, benzylcellulose dyed using, 1587.
- , benzylcellulose loaded with, 1590.
  - , cellulose acetate swelling agent, 636.
  - , cellulose ester swelled by, 132.
  - , cellulose ether dyed using, 2267, 2287.
  - , cellulose ether softener, 2155, 2183, 2217.
  - , cellulose ether solvent, 141.
  - , cellulose ether swelled by, 132, 217.
  - , delustring with, 217.
  - , dispersing agent for, 2214.
  - , ethylcellulose loaded with, 1590.

- Thiourethane, swelling cellulose ether with, 217.  
*Thoria*, see *Thorium oxide*.  
Thorium nitrate, loading with, 2152.  
Thorium oxide, 1870.  
—, catalyst, 564.  
—, opacity of, 2177.  
Thorium sulfate, 1870.  
Thread, acetylating, 365.  
—, cellulose acetate, mfr., 764, 959.  
—, —, saponifying, 850, 852.  
—, cellulose acetate impregnated, 706.  
—, cellulose ether, coating, 2337.  
—, cleaning, 257.  
—, coating, 2367.  
—, —, cellulose acetate for, 383, 834.  
—, cotton, dyeing, 673.  
—, —, esterifying, 673.  
—, dressing, cellulose acetate for, 345.  
—, effect, 2331.  
—, elastic, mfr. of, 2382.  
—, finishing, cellulose ether for, 274.  
—, hollow, cellulose acetate mfr., 879.  
—, —, mfr., 879, 884.  
—, matt surface, mfr., 268.  
—, rubberized, mfr., 258.  
—, sizing, cellulose acetate for, 345.  
—, —, cellulose ether for, 274.  
—, strengthening, 459.  
—, waterproofing, 579.  
—, see also *Filaments*, artificial.  
Thujone, 1923, 1967.  
*Thyme camphor*, see *Thymol*.  
Thyme oil, 1964.  
—, cellulose acetate solvent, 1818, 1819.  
*Thymic acid*, see *Thymol*.  
Thymochinone, 1888.  
Thymoil, 1888.  
Thymol, 1860, 1861, 1888, 2045, 2048.  
—, amines solvent for, 2013.  
—, bromine derivative of, fire-retardant, 1374.  
—, bromo, cellulose ether inflammability reduced by, 182.  
—, cellulose acetate plastifier, 346, 352, 433.  
—, cellulose nitrate plastifier for, 352.  
Thymol, crystal effects produced by, 2430.  
—, film made using, 2510.  
—, horn, artificial, made using, 2607.  
—, paper coated with nitrocellulose and, 645.  
*a-Thymol-sulfonic acid*, see *Thymolsulfonic acid*.  
Thymoquinone, 1860, 1888.  
*Thymyl acetate*, see *Acetyl thymol*.  
Thyreol, 1907.  
*Thyresol*, see *Santalol methyl ether*.  
Tiglic acid, cellulose acetate hydrolyzed in presence of, 1056.  
Tiglic anhydride, cellulose acetate hydrolyzed in presence of, 1056.  
Tiles, glazing, cellulose ether for, 2402.  
—, ornamenting, cellulose ether for, 189.  
Tin, cellulose acetate lacquer containing, 616.  
—, cellulose acetate paint containing, 616.  
—, cellulose ether impregnated with, 2479.  
—, discharge of salt of, for cellulose ether, 184.  
—, loading benzylcellulose with salts of, 1584.  
Tin acetate, loading with, 2155.  
—, waterproofing with, 218.  
Tin(ic) acid, fireproofing with, 572.  
Tin alloy, cellulose acetate lacquer containing, 616.  
—, cellulose acetate paint containing, 616.  
Tin amyl phthalate, 1974.  
Tin bromide, catalyst in cellulose acetate mfr., 1031.  
Tin(ic) bromide, catalyst in cellulose acetate mfr., 774.  
—, cellulose acetate mfr. in presence of, 774.  
—, cellulose pretreated with, 866.  
Tin butyl phthalate, 1974.  
Tin carbonate, acetone made using, 772.  
—, zinc acetate made using, 772.  
Tin chloride, benzylcellulose waterproofed by, 2158.  
—, catalyst in acetation, 433.  
—, catalyst in cellulose acetate mfr., 1031.

- Tin chloride, catalyst in cellulose acetating, 354.  
—, catalyst in ethyl chloride mfr., 1268.  
—, cellulose acetate dyed in presence of, 510.  
—, cellulose acetate loaded with, 637.  
—, cellulose acetate solvent, 399.  
—, cellulose acetate weighted by, 615, 632.  
—, cellulose ether weighted with, 173.  
—, cellulose purified by, 1408.  
—, dyeing in presence of, 2270.  
—, ethylcellulose waterproofed by, 2158.  
—, fabric tautness induced by, 460.  
—, film made using, 2524.  
—, loading with, 2147, 2148.  
—, methylcellulose waterproofed by, 2158.  
—, precipitating, on cellulose ether, 103.  
—, viscosity reduced by, 541.  
—, waterproofing cellulose ether with, 217.  
—, waterproofing with, 218.  
—, weighting cellulose ether by, 229.  
Tin(ic) chloride, 2205.  
—, acetic anhydride made using, 849.  
—, benzylcellulose loaded with, 1590.  
—, catalyst in cellulose acetate mfr., 774, 958.  
—, cellulose acetate dyed using, 602.  
—, cellulose acetate fabric weighted by, 959.  
—, cellulose acetate mfr. in presence of, 774.  
—, cellulose pretreated with, 866.  
—, ethylcellulose loaded with, 1590.  
—, ethylcellulose treated with, 276.  
—, loading with, 2145, 2148, 2149, 2154, 2163.  
—, methylcellulose treated with, 276.  
—, mordanting cellulose ether with, 226.  
—, polymerizing with, 195.  
—, weighting with, 105.  
—, weighting cellulose acetate with, 767.  
Tin(ic) chloride, weighting cellulose ether with, 226.  
Tin(ous) chloride, 950, 2236, 2318, 2348.  
—, acetaldehyde made using, 1047.  
—, acetic acid purified by, 564.  
—, acetic anhydride made using, 1047.  
—, catalyst in cellulose acetate mfr., 412.  
—, cellulose ether treated with, 275.  
—, cellulose ether dyed in presence of, 2223.  
—, cellulose ether treated with, 275.  
—, discharge (in printing) by, 265.  
—, dyestuff affinity increased, 2223.  
—, mordanting with, 143.  
Tin chromate, catalyst in acetic acid mfr., 976.  
Tin citrate, loading with, 2155.  
Tin compounds, mordanting with, 218.  
—, weighting with, 218.  
Tin(ous) discharges, coloration of, 2318.  
Tin emulsion, mfr. of, cellulose ether for, 86.  
Tin ethyl phthalate, 1974.  
Tin glycollate, loading with, 2155.  
Tin hydroxide, cellulose ether colored by, 266.  
—, loading with, 2152.  
—, mordanting with, 266.  
Tin iodide, catalyst in cellulose acetate mfr., 1031.  
Tin(ic) iodide, catalyst in cellulose acetate mfr., 774.  
—, cellulose acetate mfr. in presence of, 774.  
—, cellulose pretreated with, 866.  
Tin lactate, loading with, 2155.  
Tin linoleate, lacquer binder, 458.  
Tin methylate, acetic acid mfr. using, 634.  
—, acetone made using, 772.  
—, catalyst in aliphatic acid mfr., 1031.  
—, zinc acetate made using, 772.  
Tin methyl phthalate, 1974.  
Tin oleate, cellulose ether weighted with, 227.  
—, delustring with, 2183.  
Tin oxide, acetic acid mfr. using, 633.

- Tin oxide, catalyst in acetaldehyde mfr., 781.  
—, catalyst in acetic acid mfr., 781.  
—, catalyst in aliphatic acid mfr., 1031.  
—, cellulose ester delustrated by, 270.  
—, cellulose ester weighted with, 216, 270.  
—, cellulose ether colored by, 266.  
—, cellulose ether delustrated by, 270.  
—, cellulose ether weighted with, 216, 270.  
—, delustring with, 2169, 2179.  
—, lacquer, chalking in, prevented by, 291.  
—, loading with, 2156.  
—, mordanting with, 266.  
—, zinc acetate made using, 772.  
Tin(ic) oxide, airplane lacquer made using, 520.  
—, fireproofing with, 572.  
—, lacquer containing, 2391.  
Tin palmitate, cellulose ether weighted with, 227.  
—, delustring with, 2183.  
Tin phosphate, benzylcellulose loaded with, 1590.  
—, cellulose acetate loaded by, 623, 624.  
—, ethylcellulose loaded with, 1590.  
—, loading with, 2144, 2148, 2154.  
—, weighting fabric with, 110.  
—, weighting with, 105, 2144, 2146.  
Tin(ic) phosphate, loading with, 2144, 2145.  
—, weighting with, 2144.  
Tin(ous) phosphate, loading with, 2144.  
—, weighting with, 2144.  
Tin propyl phthalate, 1974.  
Tin resinate, lacquer binder, 458.  
Tin salt, benzylcellulose loaded with, 137.  
—, cellulose ether weighted by, 227.  
—, discharge effect using, 2317.  
—, ethylcellulose loaded with, 137.  
—, methylcellulose loaded with, 137.  
—, synthesis, pearl, using, 2611.  
—, weighting by, 63.  
Tin(ous) salt, reducing with, 199.  
Tin selenide, mfr., 2447.  
Tin silicate, benzylcellulose loaded with, 1590.  
—, cellulose acetate loaded by, 623.  
—, ethylcellulose loaded with, 1590.  
—, weighting fabric with, 110.  
Tin silicate, weighting with, 105, 2146.  
Tin silicophosphate, cellulose inflammability reduced by, 158.  
Tin stearate, cellulose ether weighted with, 227.  
—, delustring with, 2183.  
Tin sulfate, benzylcellulose waterproofed by, 2158.  
—, ethylcellulose waterproofed by, 2158.  
—, methylcellulose waterproofed by, 2158.  
—, waterproofing cellulose ether with, 217.  
Tin tannate, benzylcellulose loaded with, 1590.  
—, ethylcellulose loaded with, 1590.  
Tin telluride, mfr., 2447.  
Tin tetrachloride, 2058.  
—, acetic anhydride made using, 667.  
—, cellulose acetate solvent, 403.  
—, *see also Tin (ic) chloride*.  
Tin thiocyanate, benzylcellulose waterproofed by, 2158.  
—, cellulose acetate solvent, 399.  
—, cellulose acetate weighted by, 632.  
—, cellulose ether swelling agent, 110.  
—, ethylcellulose waterproofed by, 2158.  
—, methylcellulose waterproofed by, 2158.  
—, waterproofing cellulose ether with, 217.  
Tin(ic) thiocyanate, mordanting cellulose ether with, 226.  
—, weighting cellulose ether with, 226.  
Tin tungstate, cellulose acetate fireproofed with, 875.  
Tin vanadate, catalyst in acetaldehyde mfr., 671, 781.  
—, catalyst in acetic acid mfr., 781, 976.  
Tin zincate, cellulose acetate dyed in presence of, 778.  
*Tincture opium*, *see Laudanum*.  
Tints, identification, 2230.  
—, —, removal, 941.  
*Tintometer*, *see Lovibond tintometer*.  
Tip, cigarette, coating, cellulose acetate for, 788.  
—, —, mfr. of, 2433.

- Tip, shoe, celluloid in mfr., 2472.
- Tire, pneumatic, cellulose acetate in mfr., 476.
- Tire cover, cellulose acetate in impregnation of, 414.
- Tissues, waterproofing, cellulose acetate for, 377.
- , wrapping, benzylcellulose for mfr. of, 93, 2527.
- , ethylcellulose for mfr., 93, 2527.
- Tissue paper, see Paper, tissue.*
- Titanalba, opacity of, 2177.
- Titanic acid, delustring with, 2181.
- Titanium, salts of, cellulose treated with, 1137.
- Titanium borate, catalyst, 866.
- Titanium chloride, catalyst in ethyl chloride mfr., 1268.
- Titanium(ous) chloride, 1141, 2348.
- , discharge (in printing) by, 265.
- Titanium cyanonitride, delustring with, 2174.
- Titanium dioxide, 1075.
- , delustring using, 274, 2178, 2180, 2186, 2645.
- , leather dressing made using, 868.
- , opacity of, 2177.
- , *see also Titanium oxide.*
- Titanium hydroxide, cellulose ether colored by, 266.
- , mordanting with, 266.
- Titanium nitride, delustring with, 2174.
- Titanium oxide, 277.
- , benzylcellulose colored using, 2477.
- , card containing, 292.
- , card, playing, mfr. using, 2609.
- , catalyst, 564.
- , cellulose ester delustred by, 270.
- , cellulose ester weighted by, 270.
- , cellulose ether and, 147.
- , cellulose ether colored by, 266.
- , cellulose ether delustred by, 270.
- , cellulose ether weighted by, 270.
- , delustring with, 932, 2169, 2174, 2175, 2179, 2182.
- , delustring cellulose ether by, 266.
- , dull effect produced using, 2363.
- , ethylcellulose colored using, 2477.
- , loading with, 2156.
- Titanium oxide, matt effect produced using, 2363.
- , mordanting with, 266.
- , phosphorescence produced by, 1372.
- , playing card containing, 203, 292.
- , stencil sheet made using, 2498.
- , *see also Titanium dioxide.*
- Titanium phosphate, catalyst, 866.
- , delustring with, 2174.
- Titanium potassium oxalate, 146.
- , delustring using, 2178.
- Titanium silicate, catalyst, 866.
- Titanium sulfate, 146, 1076.
- , delustring using, 2178.
- Titanium tetrachloride, acetic acid made using, 667.
- , *see also Titanium (ic) chloride.*
- Titanium tetrahydroxide, delustring using, 2178.
- Titanium white, card, playing, mfr. using, 2609.
- , delustring with, 2174.
- , film made using, 2524.
- , *see also Titanium oxide.*
- Titanous, see Titanium(ous).*
- Titanox, delustring with, 2174.
- , opacity of, 2177.
- Titanox lacquer, 1972.
- "T N T," *see Trinitro-toluene (sym).*
- Tobacco, cellulose acetate combined with, 671.
- , cellulose acetate mixed with, 2432.
- , cellulose ether mixed with, 2432.
- , wrapper for, cellulose acetate as, 842.
- , —, cellulose acetate film for, 1090.
- Tobacco pipe, asbestos in mfr. of, 588.
- , briar root in mfr. of, 588.
- , cellulose acetate in mfr. of, 588.
- , "manganese" in mfr. of, 588.
- , meerschäum in mfr. of, 588.
- Toe, stiffener, cellulose acetate for, 613.
- , —, cellulose acetate in mfr., 630.
- Toilet article, cellulose acetate in mfr. of, 559.
- , decorating, cellulose acetate for, 869.
- Toilet requisite, cellulose acetate in mfr., 693.

- Tolidine, cellulose acetate dyed using, 503, 606.
- o*-Tolidine, amines solvent for, 2013.
- Tolu, 1959.
- Toluamide, stabilizer, 1564.
- Toluazotoluidine*, see *o*-Amido-azotoluene.
- Toluene, 92, 1850, 1852, 1944.
- , acetic acid extracted using, 605, 716.
  - , acetic acid separated using, 1026.
  - , acetic acid solvent, 1005.
  - , alkalicellulose made in presence of, 59.
  - , aluminum naphthenate solvent of, 107.
  - , aluminum resinate solvent of, 107.
  - , amines solvent for, 2013.
  - , ammonium naphthenate solvent of, 107.
  - , ammonium resinate solvent of, 107.
  - , benzylcellulose solvent, 248, 1540, 1541, 1555.
  - , benzyl chloride, impurity, 1513.
  - , benzyl chloride made using, 1293.
  - , bromo, cellulose ether inflammability reduced by, 182.
  - , butyric acid extracted by, 716.
  - , calcium naphthenate solvent of, 107.
  - , calcium resinate solvent of, 107.
  - , cellulose acetate plastic with, 442.
  - , cellulose acetate precipitant, 811, 1043.
  - , cellulose acetate protected by, in mercerizing, 616.
  - , cellulose acetate solvent, 484, 1843.
  - , cellulose acetate swelling agent, 908, 912.
  - , cellulose alkalinized in presence of, 1430.
  - , cellulose dehydrated by heating in, 426.
  - , cellulose ester coagulated by, 133.
  - , cellulose esterified in presence of, 722.
  - , cellulose ester lustred by, 221.
  - , cellulose ether coagulated by, 133, 169, 2085, 2097.
- Toluene, cellulose ether film made using, 2508.
- , cellulose ether lustred by, 221.
  - , cellulose ether non-solvent, 2077.
  - , cellulose ether softener, 303.
  - , cellulose ether solvent, 52, 1804, 1841, 2102, 2227, 2351, 2471.
  - , cellulose ether spinning bath containing, 2083.
  - , cellulose ether swelling agent, 104.
  - , cellulose formate precipitant, 442.
  - , cellulose nitrate plastic with, 442.
  - , cellulose nitrate precipitant, 811.
  - , cellulose solvent, 1330.
  - , chlorhydrins made using, 503.
  - , chlorination, 1295.
  - , crepe effect using, 2334.
  - , dispersive action of on cellulose ether, 204.
  - , esters manufactured in presence of, 580.
  - , ethylcellulose, crystalline, solvent, 1336.
  - , ethyl cellulose solvent, 19, 1332.
  - , film made using, 2516.
  - , flash point, 2061.
  - , formic acid concentrated using, 830.
  - , furfural and as cellulose acetate solvent, 580.
  - , hollow filaments produced using, 2365.
  - , ink containing, 2547.
  - , insulator containing, 2442.
  - , lacquer containing, 1572, 2406, 2413, 2424, 2428.
  - , magnesium naphthenate solvent of, 107.
  - , magnesium resinate solvent of, 107.
  - , non-chalking composition containing, 1580.
  - , paint containing, 2544.
  - , potassium naphthenate solvent of, 107.
  - , potassium resinate solvent of, 107.
  - , propionic acid extracted using, 605.
  - , resinous products from, 1572.
  - , shells, shotgun, waterproofed using, 2414.



- Toluene, sodium naphthenate solvent of, 107.  
—, sodium resinate solvent of, 107.  
—, solubilizing agent, 2213, 2219.  
—, solvents for, 1849.  
—, starch ether solvent, 1483.  
—, wetting agent, 2207.  
—, zinc naphthenate solvent of, 107.  
—, zinc resinate solvent of, 107.  
Toluene-alcohol, benzylcellulose solvent, 1545.  
—, ethylcellulose solvent, 1442.  
Toluenealkylsulfonamide, 2038.  
4-Toluene-1-azo-1-naphthalene-4-azophenol, film colored by, 2519.  
*p*-Toluenechlorosulfonic acid, alkali starch esterified by, 795.  
Toluene-dialkylsulfonamide, methyl sulfate in mfr. of, 1264.  
*o*-Toluenediazonium chloride, benzyl chloride made using, 1293.  
*p*-Toluenediethylamide, 2042.  
Toluene-diethyl sulfonamide, benzylcellulose plastifier, 60.  
—, cellulose ether plastifier, 60.  
—, cellulose nitrate plastifier, 60.  
—, ethylbenzylcellulose plastifier, 60.  
—, ethylcellulose plastifier, 60.  
—, methylcellulose plastifier, 60.  
*o*-Toluenediethylsulfonamide, 2029, 2039, 2041.  
—, cellulose acetate plastifier, 521.  
—, chlorethylcellulose plasticizer, 1595.  
—, methoxybenzylcellulose plasticizer, 1595.  
—, methylbenzylcellulose plasticizer, 1595.  
—, nitrobenzylcellulose plasticizer, 1595.  
*p*-Toluenediethylsulfonamide, 2029, 2039, 2041.  
—, chlorethylcellulose plasticizer, 1595.  
—, methoxybenzylcellulose plasticizer, 1595.  
—, methylbenzylcellulose plasticizer, 1595.  
—, nitrobenzylcellulose plasticizer, 1595.  
*p*-Toluenedimethylamide, 2042.  
Toluene-dimethyl sulfonamide, benzylcellulose plastifier, 59, 60.  
—, cellulose ether plastifier, 59, 60.  
Toluene-dimethyl sulfonamide, cellulose nitrate plastifier, 59, 60.  
—, ethylbenzylcellulose plastifier, 59, 60.  
—, ethylcellulose plastifier, 59, 60.  
—, methylcellulose plastifier, 59, 60.  
*o*-Toluenedimethylsulfonamide, 2029, 2039, 2041.  
—, cellulose acetate plastifier, 521.  
—, chlorethylcellulose plasticizer, 1595.  
—, methoxybenzylcellulose plasticizer, 1595.  
—, methylbenzylcellulose plasticizer, 1595.  
—, nitrobenzylcellulose plasticizer, 1595.  
*p*-Toluenedimethylsulfonamide, 2029, 2039, 2041.  
—, chlorethylcellulose plasticizer, 1595.  
—, methoxybenzylcellulose plasticizer, 1595.  
—, methylbenzylcellulose plasticizer, 1595.  
—, nitrobenzylcellulose plasticizer, 1595.  
*p*-Toluenedipropylamide, 2042.  
Toluenedisulfonanilid, 2024.  
—, cellulose ether plastifier, 175.  
*m*-Tolueneethyl-sulfonamide, resin of furfural and, 259.  
*p*-Toluene-ethylsulfonamide, properties, 2036.  
*m*-Tolueneethyl-sulfonamide resin, cellulose ether and, 259.  
*p*-Toluene-ethylsulfonanilid, 1066.  
*p*-Toluene-ethylsulfonate, 2042.  
*o*-Toluenemethylethylsulfonamide, 2039, 2041.  
*p*-Toluenemethylenesulfonamide, 2036, 2039, 2041.  
—, cellulose acetate plasticizer, 756.  
Toluene-methylethyl sulfonamide, benzylcellulose plastifier, 60.  
—, cellulose ether plastifier, 60.  
—, cellulose nitrate plastifier, 60.  
—, ethylbenzylcellulose plastifier, 60.  
—, ethylcellulose plastifier, 60.  
—, methylcellulose plastifier, 60.  
*o*-Toluenemethylethylsulfonamide, chlorethylcellulose plasticizer, 1595.  
—, methoxybenzylcellulose plasticizer, 1595.

- o*-Toluenemethylethylsulfonamide, methylbenzylcellulose plasticizer, 1595.
- , nitrobenzylcellulose plasticizer, 1595.
- p*-Toluenemethylethylsulfonamide, chlorethylcellulose plasticizer, 1595.
- , methoxybenzylcellulose plasticizer, 1595.
- , methylbenzylcellulose plasticizer, 1595.
- , nitrobenzylcellulose plasticizer, 1595.
- p*-Toluenemethylsulfonamide, physical constants, 1793.
- , properties, 2036.
- Toluene-*o*-monoethylsulfonamide, 2040.
- , chlorethylcellulose plasticizer, 1595.
- , methoxybenzylcellulose plasticizer, 1595.
- , methylbenzylcellulose plasticizer, 1595.
- , nitrobenzylcellulose plasticizer, 1595.
- o*-Toluenemonoethyl-sulfonamide, cellulose acetate solvent, 453.
- Toluene-*o*-monomethylsulfonamide, chlorethylcellulose plasticizer, 1595.
- , methoxybenzylcellulose plasticizer, 1595.
- , methylbenzylcellulose plasticizer, 1595.
- , nitrobenzylcellulose plasticizer, 1595.
- o*-Toluenemonomethyl-sulfonamide, cellulose acetate solvent, 453.
- Toluenesulfonamide-aldehyde, lacquer mfr. using, 2394.
- Toluenesulfonamide-aldehyde condensate, 851.
- Toluenesulfonamide-aldehyde resin, 955.
- p*-Toluenesulfonamide-benzaldehyde resin, plastic containing, 2570.
- Toluenesulfonamide-formaldehyde, lacquer mfr. using, 2394.
- Toluenesulfonamide-formaldehyde resin, 2053, 2054, 2375.
- , cellulose acetate combined with, 954.
- , cellulose ester combined with, 270.
- Toluenesulfonamide-formaldehyde resin, cellulose ether combined with, 270.
- , glass, laminated, made using, 2586.
- Toluenesulfonamide resin, 176.
- , cellulose ether and, 259.
- , lacquer mfr. using, 2394.
- Toluenesulfonanilid, 2024.
- , cable insulated using, 855.
- , cellulose acetate plasticizer, 742.
- o*-Toluenesulfonanilid, cellulose ether plastifier, 175.
- p*-Toluenesulfonanilid, 2024, 2036, 2043.
- , cellulose acetate dyed using, 547.
- , cellulose acetate plasticizer, 687.
- , cellulose acetate plastic containing, 678.
- , cellulose ether plastifier, 146.
- , mordant containing, 843.
- , mordanting with, 2317.
- , record, phonograph, made using, 536.
- , solubilizing agent, 2212.
- p*-Toluenephenylsulfonate, 2042.
- Toluenesulfamide, plastic made using, 2561.
- , resin made using, 1078.
- p*-Toluenesulfamide, 284, 2042, 2043.
- , cellulose acetate plastifier, 337.
- , cellulose ester plasticizer, 291.
- , cellulose ether plasticizer, 291.
- , cellulose ether plastic with, 64.
- p*-Toluenesulfamido acetic acid, 2043.
- p*-Toluenesulfamido ethyl ester, 2043.
- p*-Toluenesulfanilid, 2024.
- p*-Toluenesulfoacidethylester, 2043.
- p*-Toluenesulfoacidphenylether, 2043.
- Toluenesulfo*cellulose, *see* Cellulose *toluenesulfonate*.
- p*-Toluenesulfo-*p*-chloranilid, 2043.
- Toluenesulfochloride, 1633, 1685.
- , cellulose treated with, 253.
- o*-Toluenesulfochloride, 1685.
- p*-Toluenesulfochloride, 1683, 1685, 1841, 2313.
- Toluene-4-sulfochloride, 1754.
- p*-Toluenesulfocresol, 2043.
- p*-Toluenesulfodicyclohexylamine, 2006.

- p*-Toluenesulfodicyclohexylamine, cellulose acetate plastifier, 481, 494.
- p*-Toluenesulfodiethylamid, 2043.
- p*-Toluenesulfo-diphenylamine, 2043.
- p*-Toluenesulfoethylamid, 2043.
- p*-Toluenesulfoethylanilid, 2043.
- p*-Toluenesulfomethylanilid, 2043.
- p*-Toluenesulfomonoethylamid, 2043.
- Toluenesulfonamide, 851, 955, 1999, 2037, 2041.
- , benzylcellulose combined with, 266.
  - , cellulose acetate plastic, 960.
  - , cellulose acetate solvent, 1818, 1819, 1843.
  - , diphenylolcycloparaffin condensate with, 261.
  - , ethylcellulose combined with, 266.
  - , fabric coated using, 2484.
  - , methylcellulose combined with, 266.
  - , resin of furfural and, 259.
- Toluene-*p*-sulfonamide, 2630.
- p*-Toluenesulfonamide, 1081, 1658, 1670, 1824, 1843, 1923, 1970, 2034, 2041, 2043.
- , amines solvent for, 2013.
  - , benzylcellulose with, 1570.
  - , benzylcellulose plastified by, 102, 1578.
  - , cellulose acetate dyed using, 547.
  - , cellulose acetate solvent, 472.
  - , cellulose ether plasticizer, 1371.
  - , delustring with, 2188.
  - , ethylcellulose plastified by, 102.
  - , ethylcellulose solvent, 134, 2356.
  - , film containing, mfr., 443.
  - , film made using, 2503.
  - , lacquer made containing, 648.
  - , luster preserving by, 2171.
  - , methylcellulose plastified by, 102.
  - , methylcellulose solvent, 134, 2356.
  - , mordant containing, 843.
  - , mordanting with, 2317.
  - , phonograph record made with, 109.
  - , physical constants, 1793.
  - , plastic made using, 2579.
  - , plastic of cellulose acetate and, 1030.
- p*-Toluenesulfonamide, properties, 2036.
- , solubilizing agent, 2212.
- Toluenesulfonate, 2033.
- , mfr., 682.
- p*-Toluenesulfo-*a*-naphthol, 2043.
- p*-Toluenesulfo-*B*-naphthol, 2043.
- p*-Toluenesulfo-*B*-naphthylamine, 2043.
- p*-Toluenesulfonchloramide, 137.
- , cellulose ether dyed using, 2284.
- Toluenesulfonethylamide, cellulose acetate plastifier, 1012.
- Toluenesulfonic acid, catalyst in cellulose formate mfr., 904.
- , esters of, 1752.
  - , pinacone diacetate made using, 456.
- p*-Toluenesulfonic acid, 1684, 1753.
- , catalyst in cellulose acetation, 987.
- Toluenesulfonic esters, cellulose acetate plasticizer, 398.
- p*-Toluenesulfonic ester, alkylating with, 1250.
- p*-Toluenesulfonimide, plastic of cellulose acetate and, 1030.
- Toluene-sulfonyl chloride, alkali-cellulose esterified by, 278.
- Toluene-*p*-sulfonyl chloride, cellulose esterified using, 363.
- p*-Toluenesulfonyl chloride, 1686, 1757.
- , cellulose esterified with, 682.
  - , cellulose ether dyed using, 2251.
  - , cellulose etherified by, 124.
- p*-Toluenesulfo-*o*-phenetidin, 2043.
- p*-Toluenesulfo-*p*-phenetidin, 2043.
- p*-Toluenesulfophenylhydrazin, 2043.
- p*-Toluenesulfo-*o*-toluid, 2043.
- p*-Toluenesulfo-*p*-toluid, 2043.
- p*-Toluenesulfo-*m*-xylylid, 2043.
- Toluene trichloride*, see *Benzotrichloride*.
- a*-Tolvic acid, see *Phenylacetic acid*.
- o*-Toluidide cresoxylactate, cellulose acetate solvent, 507.
- Toluidine, 2015, 2016.
- , catalyst in cellulose acetate mfr., 413.
  - , cellulose acetate solvent, 966.
  - , cellulose ether dyed using, 2294, 2306.
  - , cellulose ether solvent, 106, 1841.

- Toluidine, cellulosexanthofatty acid treated with, 124.  
—, diazotizing, cellulose ether dyed using, 2300.  
—, ethyl cellulose solvent, 19.  
—, halogenated, cellulose acetate dyed using, 502.  
—, lacquer containing, 741, 2395.  
—, plastic made containing, 2565.  
—, solubilizing agent, 2219.  
—, starch ether solvent, 1483.  
*m*-Toluidine, 179.  
—, cellulose acetate dyed using, 610, 751, 2272.  
—, cellulose ether dyed with, 67, 180, 181, 217, 2252, 2268, 2278, 2286, 2288.  
*o*-Toluidine, 1086, 1642.  
—, cellulose acetate dyed using, 715, 717, 809, 904.  
—, cellulose acetate plasticizer, 342.  
—, cellulose ester dyed black using, 210.  
—, cellulose ether dyed black using, 210.  
—, cellulose ether dyed using, 2283, 2302, 2306.  
—, cellulose ether film containing, 2512.  
—, feathers dyed using, 715.  
—, flash point, 2061.  
—, fur dyed using, 715.  
—, hydrolyzing cellulose acetate with, 421.  
—, skins dyed using, 715.  
*p*-Toluidine, acetic acid concentrated using, 782.  
—, amines solvent for, 2013.  
—, cellulose acetate dyed using, 904.  
—, cellulose ester dyed black using, 210.  
—, cellulose ether dyed using, 2302.  
—, cellulose ether dyed black using, 210.  
Toluidine bisulfate, catalyst in cellulose acetating, 392.  
Toluidine chloride, acetic anhydride made using, 770.  
—, stabilizer, 1564.  
*o*-Toluidine methanesulfonic acid, dyed using, 672.  
Toluidine nitrate, stabilizer, 1564.  
Toluidine phosphate, acetic anhydride made using, 770.  
Toluidine red, stencil colored by, 664.  
Toluidine red, stencil sheet made using, 2491.  
Toluidine sulfate, acetic anhydride made using, 770.  
Toluidoxalate, stabilizer, 1564.  
Toluol, cellulose ether solvent, 1804.  
—, *see also* *Toluene*.  
Toluol sulfonamide, cellulose acetate solvent, 1843.  
Toluo-nitriles, cellulose ether precipitant, 170.  
*m*-Tolunitrile, cellulose ether precipitant, 2086.  
*o*-Tolunitrile, cellulose ether precipitant, 2086.  
*p*-Tolunitrile, cellulose ether precipitant, 2086.  
Tolunitrile, cellulose ester coagulated by, 133.  
—, cellulose ether coagulated by, 133, 2097.  
Toluoyl chloride, 2637.  
Toluquinol, 2318.  
—, cellulose ether dyed using, 265.  
*Tolylene*, *see* *Stilbene*.  
Toluylenediamine, 1087.  
*m*-Toluylenediamine, cellulose acetate dyed using, 610, 647, 683, 809, 883.  
—, cellulose ester dyed using, 218.  
—, cellulose ether dyed with, 180, 218, 2259, 2269, 2275, 2286.  
—, *see also* *1.3.5-Toluylenediamine*.  
2.4-Toluylenediamine, cellulose ether dyed with, 168.  
2.5-Toluylenediamine, cellulose ether film containing, 2512.  
*o*-Toluylenemethenylamidine, 2015.  
*o*-Toluylenemethylenediamine, 2015.  
*a*-Toluylic acid, *see* *Phenylacetic acid*.  
*Tolyl*, *see* *Diethyl*, *Monotolyl*, *Tritolyl*.  
*Tolylacetamide*, *see* *o*-*Acetotoluide*.  
Tolyl acetate, cellulose acetate precipitant, 811.  
—, cellulose nitrate precipitant, 811.  
Tolyl alcohol, *iso*-butyl *iso*-butyrate as substitute, for, 443.  
—, cellulose acetate lacquer containing, 443.  
—, cyclohexanone as substitute for, 443.  
—, methylcyclohexanone as substitute for, 443.

- Tolylamine, solubility, organic compounds in, 2007.  
*Tolylantipyrin*, see *Tolpyrin*.  
Tolylbenzyl ether, 1872.  
Tolyl carbinol, lacquer containing, 2396.  
Tolyl citrate, 1952.  
Tolyldeoxyn, terephthalic acid, from, 7.  
*p-Tolyl-dimethylpyrazole*, see *Tolpyrine*.  
*p-Tolyl-dimethylpyrazole salicylate*, see *Tolysal*.  
Tolyl *b*-dinaphthoxylacetate, 1942.  
*m*-Tolyl ether, acetic acid solvent, 1032.  
*o*-Tolyl ether, acetic acid solvent, 1032.  
*p*-Tolyl ether, acetic acid solvent, 956, 1032.  
*Tolyl hexahydrobenzoate*, see *Tolyl naphthenate*.  
Tolyl naphthenate, 1966.  
*p*-Tolyl-*a*-naphthylamine, cellulose acetate dyed using, 610, 647.  
Tolyl phenylmalonate, 1952.  
Tolyl phosphate, 1081.  
—, benzylcellulose plasticizer, 171.  
—, cable insulated using, 855.  
—, cellulose acetate plastifier, 581.  
—, floor covering made using, 1579.  
—, glass, laminated, made using, 2585.  
—, lacquer containing, 1035.  
—, wall covering made using, 1579.  
Tolyl phthalate, 1952.  
Tolyl ricinoleate, 1946, 1952.  
—, cellulose acetate plastifier, 729.  
Tolyl succinate, 1952.  
Tolyl succinylsuccinate, 1952.  
Tolyl tartrate, 1952.  
Tolylthiourethane, 125, 1643.  
Tolyl trimesate, 1952.  
Tolyl-urea, lacquer containing, 2391.  
Tolylurethane, cellulose acetate plastic containing, 678.  
*o*-Tolyl urethane, 1956.  
Tolpyrin, 1965.  
Tolpyrin salicylate, 1964.  
—, see also *Tolysal*.  
Tolysal, 1965.  
Torald, 2568.  
Tortoise shell, cellulose acetate in simulating, 580.  
—, imitation, benzylcellulose for, 1556.  
Tortoise shell, imitation, mfr., 2343.  
Towel, cellulose ester for waterproofing, 209.  
—, cellulose ether for waterproofing, 209.  
—, imitation, cellulose acetate in mfr., 996.  
—, mfr., 695.  
—, —, cellulose ether in, 2405.  
—, waterproofing, 209.  
Toys, cellulose ether in mfr., 2636.  
T. P. P., 1900.  
—, see also *Triphenyl phosphate*.  
Tracing-cloth, cellulose ester in mfr. of, 163.  
—, cellulose ether in mfr. of, 163.  
—, see also *Cloth, tracing*.  
Traffic, marking, cellulose acetate for mfr. block for, 678.  
Tragacanth, 198, 2205, 2645.  
—, acetylated, stencil sheet from, 1092.  
—, cellulose acetate dyed using, 638.  
—, cellulose ether dyed using, 2303.  
—, diphenylethylene oxide compound with, 64.  
—, ethylating, 44.  
—, ethylene imide compound with, 64.  
—, ethylene sulfide compound with, 64.  
—, fabric printed with, 2645.  
—, fumacyglycidic acid, compound with, 64.  
—, glycidic acid compound with, 64.  
—, matt effect on cellulose ether by, 243.  
—, methylphenylethylene oxide compound with, 64.  
—, printing, reserve, color, using, 2326.  
—, printing paste containing, 951.  
—, propylene oxide compound with, 64.  
—, stencil sheet made using, 2499.  
—, thickener, 2165.  
—, trimethylene oxide compound with, 64.  
Tragacanth acetate, stencil sheet made using, 2491, 2494.  
Tragacanth esters, stencil sheet made using, 2491.  
Tragacanth ethyl ether, 44, 1160.  
Tragasol, cellulose acetate dyed in presence of, 651.

- Train oil, alkylcellulose with for treating leather, 193.  
 —, dimethylcellulose with for treating leather, 193.  
 —, emulsion containing, 2466, 2467.  
 —, tanning with, 2467.  
 Transfer, benzylcellulose for, 1568.  
 —, benzylcellulose, mfr., 293.  
 —, butyl(acid) tartrate for, 685.  
 —, cellulose ether mfr., 2547.  
 —, ethylcellulose mfr., 293.  
 —, gold, castor oil in mfr., 2550.  
 —, —, cumar in mfr., 2550.  
 —, —, diethyleneglycol monobutyl ether in mfr., 2550.  
 —, —, diethyleneglycol monoethyl ether in mfr., 2550.  
 —, —, ethyl abietate in mfr., 2550.  
 —, —, ethylcellulose in mfr., 2550.  
 —, —, gold bronze in mfr., 2550.  
 —, —, mfr., 2550.  
 —, multicolor, benzylcellulose in mfr., 2549.  
 —, —, diethyleneglycol monoethyl ether in mfr., 2549.  
 —, —, ethyl abietate in mfr., 2549.  
 —, —, ethylbenzylcellulose in mfr., 2549.  
 —, —, lithographic varnish in mfr., 2549.  
 —, —, paracoumarone resin in mfr., 2549.  
 —, —, tricresyl phosphate in mfr., 2549.  
 —, photo-mechanical, cellulose acetate for, 575.  
 —, —, cellulose ether for, 101.  
 —, two-color, cellulose ether for, 2550.  
 —, —, mfr., 2550.  
 Transfer base, benzylcellulose for, 246.  
 —, ethylcellulose for, 246.  
 Transfer sheet, 2324.  
 Transformer, insulating, cellulose acetate for, 370.  
 Transformer oil, 1343.  
 —, cable, insulation of, made using, 1718.  
 —, cellulose ester film strength increased by, 125.  
 —, cellulose ether film strength increased by, 125.  
 Transparent pane glass, *see* Glass, laminated.  
 Trap, steam, cellulose acetate in mfr. of, 504.  
 Travelers spirits, mfr., 2480.  
 Treacle, *see* Molasses.  
 Tri, *see* Trichlorethylene.  
 Triacel, permeability, 944.  
 Triacetic cellulose, 313.  
 —, *see also* Cellulose triacetate.  
 "Triacetic dextrin," 314.  
 Triacetic starch, 313.  
 Triacetin, 61, 565, 950, 1078, 1083, 1708, 1862, 1863, 1872, 1899, 1907, 1923, 1928, 1930, 1931, 1949, 1951, 1961, 1968, 1994, 2003, 2020, 2024, 2026, 2027, 2029, 2041, 2042, 2235, 2378.  
 —, airplane dope containing, 442.  
 —, benzylcellulose plastified by, 102, 188, 1578, 2597.  
 —, block, molded, made using, 162.  
 —, caoutchouc substitute containing, 432.  
 —, cellulose acetate gelatinizer, 536.  
 —, cellulose acetate melted with, 1090.  
 —, cellulose acetate plastic made using, 768.  
 —, cellulose acetate plasticizer, 398, 452, 560, 558, 614, 628, 747, 862, 938, 1012.  
 —, cellulose acetate relustred by, 604, 636, 793.  
 —, cellulose acetate softener, 930.  
 —, cellulose acetate solvent, 445, 580, 587, 813, 1039.  
 —, cellulose ether delustred with, 185.  
 —, cellulose ether ink containing, 2474.  
 —, cellulose ether plasticizer, 176.  
 —, cellulose ether solvent, 139, 2076.  
 —, cellulose ether spun using, 2089.  
 —, conductor, electric, containing, 2442.  
 —, delustring with, 185, 210, 2189.  
 —, dental plate made using, 2538.  
 —, dispersing agent for, 2213.  
 —, dope, cellulose acetate airplane, containing, 460.  
 —, ethylcellulose, crystalline, solvent, 1336.  
 —, ethylcellulose plastified by, 102, 188, 2597.  
 —, ethylcellulose solvent, 134, 1335, 2356.  
 —, filament, artificial, made using, 1001.

- Triacetin, film made using, 2502, 2503, 2506, 2509, 2519.  
—, floor covering containing, 966.  
—, glass, laminated, made using, 2585, 2586, 2588, 2591, 2594.  
—, glass strengthened using, 799.  
—, hollow filaments produced using, 2365.  
—, ink containing, 2475.  
—, lacquer containing, 727.  
—, lacquer, fireproof, containing, 520.  
—, methylcellulose plastified by, 102, 2597.  
—, methylcellulose solvent, 134, 2356.  
—, physical constants, 1793.  
—, plastic made using, 2560, 2566.  
—, plate, acoustic, made using, 703.  
—, properties, 728.  
—, record, phonograph, made using, 162, 990.  
—, relustring with, 2198, 2201.  
—, relustring cellulose acetate with, 723.  
—, rosin melted with, 1090.  
—, shoe heel made using, 525.  
—, solvent power of, 595.  
—, stencil sheet made using, 2491.  
—, triphenyl phosphate and as solvent, 1902.  
—, viscosity cellulose acetate dissolved in, 595.  
—, window curtain mfr., using, 820.  
—, wooden heel made using, 525.  
—, *see also Glyceryl triacetate*.  
Triacetin alcohol, cellulose acetate solvent, 813.  
Triacetoneamine, 1887.  
Triacetoneamannite, 1857, 1874, 1886, 1894.  
Triacetylanhydrofructose, 1159, 1505.  
10-Triacetylcelloglucan diacetate, 911.  
150-Triacetylcelloglucan diacetate, 911.  
Triacetylcellulose, 4, 321, 1686.  
—, film, thickness of, 159.  
—, *see also Cellulose acetate*.  
Triacetylcellulose A, 1312.  
Triacetyldibromglucose, 1509.  
Triacetyldigluco, 1937.  
Triacetyl-*o,o'*-dimethylol-*p*-cresol-*p*-toluenesulfonate, 2034.  
Triacetylfructose, 1158, 1505.  
Triacetylfructose dinitrate, 1159.  
Triacetylglucose, 317.  
Triacetylululin, 1158, 1159.  
2.3.4-Triacetyl-1-*b*-methylglucose, 1501.  
2.3.4-Triacetyl-*B*-methyl-*d*-glucoside, 1508.  
2.3.4-Triacetyl-*a*-methylglucoside, 1509.  
3.4.6-Triacetyl-2-methylmethylglucoside, 1329.  
—, hydrolysis of, 205.  
—, mfr. of, 205.  
Triacetylmethyl-rhamnoside, 974, 1498.  
Triacetylmethyl-*d*-riboside, 1499.  
Triacetyl-1-methyl-*d*-riboside, 1498.  
Triacetylquinic acid, 320.  
Trialkylcellulose, hydrolysis of, 1106.  
Trialkylene glycol phosphate monoalkyl ether, cellulose ester plasticizer, 300.  
—, cellulose ether plasticizer, 300.  
Trialkylene glycol phosphate monoamyl ether, cellulose ester plasticizer, 300.  
—, cellulose ether plasticizer, 300.  
Trialkylene glycol phosphate monobutyl ether, cellulose ester plasticizer, 300.  
—, cellulose ether plasticizer, 300.  
Trialkylene glycol phosphate monoethyl ether, cellulose ester plasticizer, 300.  
—, cellulose ether plasticizer, 300.  
Trialkylene glycol phosphate monomethyl ether, cellulose ester plasticizer, 300.  
—, cellulose ether plasticizer, 300.  
Trialkylene glycol phosphate monopropyl ether, cellulose ester plasticizer, 300.  
—, cellulose ether plasticizer, 300.  
Triallylcellulose, 1637.  
—, mfr., 163, 208.  
*Triamidodiphenyltolyl carbinol*, *see Rosaniline*.  
Triamino, cellulose acetate dyed using, 2246.  
1.5.8-Triamino-4-anilinoanthraquinone, 2249, 2250.  
—, acylated, cellulose acetate dyed using, 1010.  
1.5.8-Triamino-4-*p*-anisidinoanthraquinone, 2250.  
—, cellulose acetate dyed using, 1010.

- 1.2.4-Triaminoanthraquinone, cellulose acetate dyed using, 879.  
—, cellulose ether dyed using, 2264.  
4.5.8-Triamino-1-hydroxyanthraquinone, cellulose acetate dyed using, 1010.  
1.3.8-Triamino-2-methylantraquinone, cellulose acetate dyed using, 925.  
1.5.8-Triamino-4-*p*-toluidinoanthraquinone, 2250.  
Tri-ammonium citrate, antacid, 1563.  
—, benzylcellulose stabilizer, 1563.  
*Triamyl*, see *Amyl*; *Diamyl*; *Monoamyl*.  
Triamylamine, 1647.  
Triamylene glycol phosphate monoalkyl ether, cellulose ester plasticizer, 300.  
—, cellulose ether plasticizer, 300.  
Triamylene glycol phosphate monoamyl ether, cellulose ester plasticizer, 300.  
—, cellulose ether plasticizer, 300.  
Triamylene glycol phosphate monobutyl ether, cellulose ester plasticizer, 300.  
—, cellulose ether plasticizer, 300.  
Triamylene glycol phosphate monoethyl ether, cellulose ester plasticizer, 300.  
—, cellulose ether plasticizer, 300.  
Triamylene glycol phosphate monomethyl ether, cellulose ester plasticizer, 300.  
—, cellulose ether plasticizer, 300.  
Triamylene glycol phosphate monopropyl ether, cellulose ester plasticizer, 300.  
—, cellulose ether plasticizer, 300.  
Triamyl phosphate, cellulose ether plasticizer, 194.  
Triisoamyl phosphate, 1897.  
Tri-1.5-anhydroglucose, 1111.  
Triarylmethane dyes, mfr., 673.  
Triarylphosphate, cellulose ether setting bath containing, 262, 263.  
*Tribenzaldiamine*, see *Hydrobenzamide*.  
Tribenzoin, 1961.  
—, see also *Glyceryl tribenzoate*.  
Tribenzoyl-*b*-glucosan, 737.  
3.5.6-Tribenzoylglucose, 1508.  
2.3.4-Tribenzoyl-*b*-methylgalactoside-6-*p*-toluene sulfonate, mfr. of, 294.  
*Tribenzyl*, see *Benzyl*; *Dibenzyl*; *Monobenzyl*.  
Tribenzyl alcohol, cellulose acetate solvent, 813.  
Tribenzylamine, 2016.  
—, cellulose ether solvent, 68.  
Tribenzylcellulose, 1511, 1513, 1519.  
—, composition, 1524.  
—, mfr. of, 69, 207.  
—, percentage composition, 1511.  
Tribenzylglyceryl ether, 1874.  
Tribenzylin, 1995, 2017.  
Tribenzylpentaerythrite, cellulose ether solvent, 222.  
Tribenzyl phosphate, 1897.  
—, camphor substitute, 2052.  
—, cellulose acetate plastifier, 581.  
3.5.6-Tribenzylisopropylideneglucose, 1508.  
Tri-bromacetanilid, plastic containing, 2570.  
2.4.6-Tribromaniline, acetylating, 853.  
—, cellulose acetate inflammability reduced by, 618.  
—, subliming, 853.  
—, 2.4.6-tribromdiacetanilide made using, 961.  
*Tribromaniline hydrobromate*, see *Bromamide*.  
Tribrombenzene, cellulose ether inflammability reduced by, 182.  
—, film made using, 2510.  
Tribrom-*ter*-butyl benzoate, 1959.  
Tribromcamphor, cellulose ether inflammability reduced by, 182.  
Tribromcatechol, cellulose ether inflammability reduced by, 182.  
Tribromcresol, cellulose ether inflammability reduced by, 182.  
Tribromcresyl acetate, benzylcellulose and, 1568.  
—, benzylcellulose treated with, 1563.  
—, fire retardant, 304, 1374, 1568.  
Tribromcresyl formate, benzylcellulose and, 1568.  
—, benzylcellulose treated with, 1563.  
—, fire retardant, 304, 1374, 1568.  
Tribromcresyl propionate, benzylcellulose and, 1568.  
—, benzylcellulose treated with, 1563.  
—, fire retardant, 304, 1374, 1568.



- Tribromcumene, cellulose ether inflammability reduced by, 182.  
 Tribromcymene, cellulose ether inflammability reduced by, 182.  
 2,4,6-Tribromdiacetanilid, 1838.  
 —, cellulose ester fire-retarder, 961.  
 —, mfr., 961.  
 Tribrom-ethylbenzene, cellulose ether inflammability reduced by, 182.  
*Tribromhydrin, see Allyl tribromide.*  
 Tribromhydrochinone, cellulose ether inflammability reduced by, 182.  
 Tribromide, 1254.  
 Tribrom-mesitylene, cellulose ether inflammability reduced by, 182.  
 Tribrommethane, 1164, 1811.  
 —, *see also Bromoform.*  
 Tribromnaphthalene, 1826.  
 Tribromnaphthyl acetate, benzylcellulose treated with, 1563.  
 —, fire retardant, 304, 1374.  
 Tribromnaphthyl formate, benzylcellulose treated with, 1563.  
 —, fire retardant, 304, 1374.  
 Tribromnaphthyl propionate, benzylcellulose treated with, 1563.  
 —, fire retardant, 304, 1374.  
 Tribromphenol, bromine derivative of, fire-retardant, 1374.  
 —, cellulose acetate inflammability reduced by, 618.  
 —, cellulose ether inflammability reduced by, 182.  
 —, film made using, 2510.  
 Tribromphenyl acetate, benzylcellulose and, 1568.  
 —, benzylcellulose treated with, 1563.  
 —, fire retardant, 304, 930, 1374, 1568.  
 Tribromphenyl formate, benzylcellulose and, 1568.  
 —, benzylcellulose treated with, 1563.  
 —, fire retardant, 304, 1374, 1568.  
 Tribromphenyl phosphate, cellulose ether plastifier, 174.  
 Tribromphenyl propionate, benzylcellulose and, 1568.  
 —, benzylcellulose treated with, 1563.  
 —, fire retardant, 304, 1374, 1568.  
*Tribrompropenyl, see Allyl tribromide.*  
 Tribrompyrimidine, 1743.  
 —, alkalicellulose compound with, 1009.  
 —, cellulose ether from alkalicellulose and, 298.  
 Tribrompyrimidine bromide, cellulose derivative made using, 250.  
 —, cellulose ether made using, 250.  
 Tribrompyrimidine chloride, cellulose derivative made using, 250.  
 —, cellulose ether made using, 250.  
 Tribrompyrogallol, cellulose ether inflammability reduced by, 182.  
 Tribromresorcinol, cellulose acetate inflammability reduced by, 182.  
 Tribromthymol, cellulose ether inflammability reduced by, 182.  
 Tribromtoluene, cellulose ether inflammability reduced by, 182.  
 Tribrom-2,4,6-tribrommethyl-anilid, fire-retardant, 1374.  
 Tribromxylene, 1826.  
 —, cellulose ether inflammability reduced by, 182.  
 Tribromxylenyl acetate, benzylcellulose and, 1568.  
 —, benzylcellulose treated with, 1563.  
 —, fire retardant, 304, 1374, 1568.  
 Tribromxylenyl formate, benzylcellulose and, 1568.  
 —, benzylcellulose treated with, 1563.  
 —, fire retardant, 304, 1374, 1568.  
 Tribromxylenyl propionate, benzylcellulose and, 1568.  
 —, benzylcellulose treated with, 1563.  
 —, fire retardant, 304, 1374, 1568.  
*Tributyl, see Butyl; Dibutyl; Monobutyl.*  
 Tri-*n*-butyl acetone, 1899.  
 Tri-*n*-butylamine, solubility organic compounds in, 2007.  
 Triisobutyl citrate, 1952.  
 Tributylene glycol phosphate monoalkyl ether, cellulose ester plasticizer, 300.  
 —, cellulose ether plasticizer, 300.  
 Tributylene glycol monoamyl ether, cellulose ester plasticizer, 300.  
 —, cellulose ether plasticizer, 300.  
 Tributylene glycol phosphate monobutyl ether, cellulose ester plasticizer, 300.

- Tributylene glycol phosphate *mono*-butyl ether, cellulose ether plasticizer, 300.
- Tributylene glycol phosphate *monoethyl* ether, cellulose ester plasticizer, 300.
- , cellulose ether plasticizer, 300.
- Tributylene glycol phosphate *monomethyl* ether, cellulose ester plasticizer, 300.
- , cellulose ether plasticizer, 300.
- Tributylene glycol phosphate *monopropyl* ether, cellulose ester plasticizer, 300.
- , cellulose ether plasticizer, 300.
- Tributylglycol phosphate, 1897.
- Tributylpentaerythrite, cellulose ether solvent, 222.
- Tributyl phosphate, lacquer containing, 2428.
- , plasticizing value, 1794.
- Tri-*n*-butyl phosphate, cellulose ether emulsifier, 237.
- , cellulose ether solvent, 239.
- , cellulose nitrate solvent, 239.
- Triisobutyrate, 1701, 1702.
- Tributyryl, 1708, 1925, 1965.
- , cellulose acetate gelatinizer, 536.
- , cellulose acetate plastifier, 569, 618.
- , film made using, 2504.
- , *see also* Butyryl.
- Tricaprylin, 1708.
- Tricarbamide, *see* Cyanuric acid.
- Trichloracetal, 1867.
- Trichloracetaldehyde, *see* Trichloraldehyde.
- Trichloracetamide, inflammability reduced by, 1055.
- Trichloracetanilid, benzylcellulose with, 1571.
- Trichloracetic acid, 1701, 1709, 1737, 2625.
- , alkylcellulose treated with, 85, 1426.
- , catalyst in cellulose acetating, 351, 353.
- , cellulose acetate swelling agent, 728.
- , ethylcellulose with, 2465.
- , mfr., 912.
- , methylcellulose with, 2465.
- Trichloracetic aldehyde, *see* Chloral.
- Trichloracetic anhydride, 1695.
- Trichloracetic ether, *see* Ethyl trichloracetate.
- Trichloraldehyde, 1865.
- , *see also* Chloral.
- Trichloraldehydeoxyphenyldimethylpyrazol, *see* Hypnal.
- Trichloramidine, 2019.
- Trichloramidoethyl alcohol, *see* Chloralammonia.
- 2.5.6-Trichlor-*p*-aminophenols, cellulose acetate dyed using, 717.
- Trichloraniline, 2025.
- , cellulose acetate solvent, 1843.
- 3.4-Trichloraniline, cellulose acetate dyed using, 675.
- 3.4.5-Trichloraniline, cellulose ether dyed using, 2261.
- Trichloranthracene, 1828.
- , cellulose acetate inflammability reduced by, 506.
- , cellulose nitrate inflammability reduced by, 506.
- Trichlorbenzene, 1826, 1827.
- , cellulose acetate plasticizer, 398.
- 1.2.3-Trichlorbenzene, cellulose ester coagulated by, 133.
- , cellulose ether coagulated by, 133, 170, 2086, 2097.
- as*-Trichlorbenzene, 2018.
- Trichlor-brom-ethylene, 2628.
- Trichlorbutyl alcohol, *see* 1.1.1-Trichlor-2-methylpropyl alcohol.
- ter-Trichlorbutyl alcohol, 1867.
- Trichlorterbutyl alcohol, cellulose acetate plastifier, 502.
- , *see also* Chloretone; 1.1.1-Trichlor-2-methylpropyl alcohol.
- Trichlorbutyric aldehyde, *see* Butyl chloral.
- Trichlorcresyl acetate, benzylcellulose and, 1568.
- , benzylcellulose treated with, 1563.
- , fire retardant, 304, 1374, 1568.
- Trichlorcresyl formate, benzylcellulose and, 1568.
- , benzylcellulose treated with, 1563.
- , fire retardant, 304, 1374, 1568.
- Trichlorcresyl propionate, benzylcellulose and, 1568.
- , benzylcellulose treated with, 1563.
- , fire retardant, 304, 1374, 1563.
- Trichlorethane, 1816, 1994.
- , cellulose acetate plastifier, 383.

- Trichlorethane, cellulose acetate solubility in, 1783.  
 —, cellulose acetate solvent, 813.  
 —, cellulose ether gelatinant, 2101.  
 —, *see also Methyl chloroform*.  
 1.1.2-Trichlorethane, 1816.  
 —, mfr., 668, 669.  
*aab-Trichlorethane, see 1.1.2-Trichlorethane*.  
 Trichlorethylacetanilid, 2024.  
 —, cellulose acetate plastifier, 495.  
 Trichlorethyl citrate, 1952.  
 Trichlorethylene, 1403, 1812, 1821, 1823, 1824, 1825, 1858, 1885.  
 —, acetic acid and formic acid separated by, 1000.  
 —, acetic acid concentrated using, 669.  
 —, acetic acid extracted by, 629, 835.  
 —, acetic acid recovery using, 724.  
 —, acetic acid solvent, 928, 1005.  
 —, acetic anhydride extracted with, 605.  
 —, benzylcellulose solvent, 1541, 1553, 1555.  
 —, boiling point methyl alcohol with, 1831.  
 —, butyric acid concentrated using, 1049.  
 —, cellulose acetate cleaned by, 1072.  
 —, cellulose acetate dyed using, 841.  
 —, cellulose acetate non-solvent, 1016.  
 —, cellulose acetate plastifier, 383.  
 —, cellulose acetate solvent, 397, 401, 453, 469, 470, 471, 477, 813, 1692, 1819.  
 —, cellulose acetate swelling agents, 908.  
 —, cellulose acetate waste recovered by, 594.  
 —, cellulose acetylated in presence of, 988.  
 —, cellulose ester coagulated by, 133.  
 —, cellulose ether coagulated by, 133, 170, 2086.  
 —, cellulose ether dyed level in presence of, 104.  
 —, cellulose ether dyeing using, 2237, 2238, 2255, 2270, 2323.  
 —, cellulose ether softener, 2133.  
 —, cellulose ether solvent, 135, 2227, 2351.  
 Trichlorethylene, cellulose purified by, 1409.  
 —, chloracetic acid made from, 482.  
 —, crepe effect using, 2334.  
 —, dye solvent, 684, 749.  
 —, fire extinguisher, 543.  
 —, formic acid and acetic acid separated by, 1000.  
 —, lacquer containing, 429.  
 —, mfr., 446, 541, 548, 560, 571.  
 —, propionic acid concentrated using, 1049.  
 —, solubility, 1824.  
 —, solubilizing agent, 2212, 2219.  
 —, stabilizing, 1066.  
 —, starch ether solvent, 1483.  
 Trichlorethylene-alcohol, ethylcellulose solvent, 2233.  
 Trichlorethylidene glycerol, 1858.  
*Trichlorethylideneimide, see Chloralimide*.  
 Trichlorethyl phosphate, 1898.  
 —, benzylcellulose plastifier, 126.  
 —, ethylcellulose plastifier, 126.  
 Trichlorgallein, amines solvent for, 2013.  
 Trichlorhydrin, 1985.  
 —, cellulose acetate solvent, 407, 1818, 1819.  
 —, mfr., 539, 572.  
 Trichlor-iodo-ethylene, 2628.  
*Trichlorlactonitrile, see Chloralhydrocyanate*.  
 Trichlormethane, uses, 1812.  
 —, *see also Chloroform*.  
 Trichlormethylacetanilid, 2022.  
 —, cellulose acetate solvent, 407, 469, 470, 1692, 1818, 1819, 1838, 1843.  
 1.1.1-Trichlor-2-methylpropanol, cellulose acetate plastifier, 502.  
 1.1.1-Trichlor-2-methylpropanol-2, *see Chloretone*.  
 1.1.1-Trichlor-2-methylpropyl alcohol, 1836.  
 Trichloronaphthalene, 1826, 1828.  
 —, cellulose acetate inflammability reduced by, 506.  
 —, cellulose nitrate inflammability reduced by, 506.  
 Trichloronaphthyl acetate, benzylcellulose treated with, 1563.  
 —, fire retardant, 304, 1374.  
 Trichloronaphthyl formate, benzylcellulose treated with, 1563.  
 —, fire retardant, 304, 1374.

- Trichloronaphthyl propionate, benzylcellulose treated with, 1563.  
—, fire retardant, 304, 1374.  
*Trichloronitromethane*, see *Chlorpicrin*.  
Trichlorophenol, 1859, 1931, 2026, 2027.  
—, cellulose acetate plasticizer, 398, 559.  
—, cellulose ether solvent, 1841.  
—, horn, artificial, made using, 2608.  
—, triphenyl phosphate and as solvent, 1902.  
Trichlorophenyl acetate, benzylcellulose and, 1568.  
—, benzylcellulose treated with, 1563.  
—, fire retardant, 304, 1374, 1568.  
Trichlorophenyl formate, benzylcellulose and, 1568.  
—, benzylcellulose treated with, 1563.  
—, fire retardant, 304, 1374, 1568.  
Tri-*o*-chlorphenyl phosphate, 1092.  
Tri-*p*-chlorphenyl phosphate, 1092.  
Trichlorophenyl propionate, benzylcellulose and, 1568.  
—, benzylcellulose treated with, 1563.  
—, fire retardant, 304, 1374, 1568.  
Trichloropropane, cellulose acetate solvent, 1692.  
—, mfr., 572.  
Trichlortoluene, 1826.  
Trichlorxylenyl acetate, benzylcellulose and, 1568.  
—, benzylcellulose treated with, 1563.  
—, fire retardant, 304, 1374, 1568.  
Trichlorxylenyl formate, benzylcellulose and, 1568.  
—, benzylcellulose treated with, 1563.  
—, fire retardant, 304, 1374, 1568.  
Trichlorxylenyl propionate, benzylcellulose and, 1568.  
—, benzylcellulose treated with, 1563.  
—, fire retardant, 304, 1374, 1568.  
Tricresyl carbonate, 1906.  
Tricresyldinitrotrinitrophenyl phosphate, 1896.  
Tricresyl phosphate, 146, 214, 1580, 1585, 1658, 1820, 1841, 1859, 1872, 1895, 1897, 1898, 1904, 1905, 1955, 1968, 1974, 1994, 2016, 2027, 2029, 2040, 2175, 2405.  
Tricresyl phosphate, alkylcellulose viscosity reduced by, 1352.  
—, benzylcellulose combined with, 1364.  
—, benzylcellulose plastified by, 102, 162, 1575, 1579, 2597.  
—, benzylcellulose solvent, 1545, 1554, 1588.  
—, benzylcellulose treated with, 1561, 1562.  
—, benzylcellulose viscosity reduced by, 224, 1558.  
—, celluloids, pigmented, containing, 803.  
—, cellulose acetate film made using, 645.  
—, cellulose acetate inflammability reducer, 92.  
—, cellulose acetate lacquer containing, 449.  
—, cellulose acetate plastic containing, 702.  
—, cellulose acetate plastifier, 563.  
—, cellulose acetate solvent, 407, 469, 1818, 1843.  
—, cellulose ether film containing, 2512.  
—, cellulose ether fireproofed by, 107.  
—, cellulose ether inflammability reducer, 92.  
—, cellulose ether plastifier, 146, 1371.  
—, cellulose ether solvent, 1841, 2471.  
—, cellulose nitrate inflammability reducer, 92.  
—, coating, fire-resistant, containing, 687.  
—, conductor, electric, containing, 2442.  
—, ethylbutylcellulose and for lacquer mfr., 2426.  
—, ethylcellulose combined with, 1364.  
—, ethylcellulose plastified by, 102, 2597.  
—, ethylcellulose solvent, 19.  
—, ethylcellulose viscosity reduced by, 224, 1352.  
—, fabric coated using, 2485.  
—, film made using, 2518.  
—, film preservative, 1586.  
—, floor covering made using, 1579.  
—, inflammability reduced by, 2527.

- Tricresyl phosphate, lacquer containing, 2419, 2420.  
—, lacquer, ship bottom, containing, 2419.  
—, ethylbutylcellulose and for lacquer mfr., 2426.  
—, methylcellulose combined with, 1364.  
—, methylcellulose plastified by, 102, 2597.  
—, methylcellulose viscosity reduced by, 224, 1352.  
—, paint containing, 2544.  
—, physical constants, 1793.  
—, pictures, transfer, made using, 2551.  
—, plastic made using, 2579, 2580.  
—, plasticizer, lacquer, 2400.  
—, printing, intaglio, made using, 2551.  
—, properties, 728.  
—, starch ether solvent, 1483.  
—, transfer, multicolor, made using, 2549.  
—, varnish containing, 2637.  
—, wall covering made using, 1579.  
—, waterproofing, regenerated cellulose for, 2412.  
o-Tricresyl phosphate, 1898.  
—, leather, artificial, made using, 468.  
Tri-o-cresyl phosphate, flash point, 2061.  
Tricresyl thiophosphate, 1896.  
Tri-cumene, film made using, 2510.  
*Tricyanic acid*, see *Cyanuric acid*.  
Tricyclohexanol phosphate, 1899.  
Tricyclohexylamino-N-phosphine oxide, 1900.  
Tri-cymene, film made using, 2510.  
Trideca-acetyl-1-*b*-methyl-6'-*b*-cellobiosidogentiobiose, 1507.  
Tridecamethyl-*b*-methylcellotetraside, 1131.  
Tridecane, cellulose ester coagulated by, 133.  
—, cellulose ether coagulated by, 133, 2085, 2097.  
—, cellulose ether spinning bath containing, 2083.  
—, filament cleaned by, 257.  
—, film cleaned by, 257.  
—, ribbon cleaned by, 257.  
—, thread cleaned by, 257.  
Tri(-o-diphenyl) phosphate, 1896.  
*Trieline*, see *Trichlorethylene*.  
Triethanolamine, 254, 292, 1072, 2006, 2007, 2196, 2384.  
—, celluloid solvent, 890.  
—, cellulose acetate delustred by, 937.  
—, cellulose acetate solvent, 890, 1785.  
—, cellulose acetate swelling by, 1043.  
—, cellulose ether made using, 2460.  
—, cellulose ether viscosity reduced by, 1365, 2093.  
—, cellulose ether dyed using, 2278.  
—, cellulose ether lacquer containing, 155.  
—, cellulose ether printing on using, 244.  
—, cellulose ether softener, 2121.  
—, delustring with, 305, 2187.  
—, electrical discharge in fibers prevented by, 215.  
—, lacquer containing, 2418.  
—, lacquer, colored, containing, 2425.  
—, printing cellulose ether using, 2324.  
—, wetting-out agent, 2357.  
Triethanolamine dimethyl ether, filter made using, 2461.  
Triethanolamine oleate, sizing with, 2141.  
—, wetting agent, 2207.  
Triethanolamine resinate, sizing with, 2141.  
Triethanolamine stearate, sizing with, 2141.  
—, wetting agent, 2207.  
*Triethyl*, see *Diethyl*; *Ethyl*; *Monoethyl*.  
Triethylacetamide, ethyl bromide in mfr., 1275.  
Triethyl alcohol, cellulose acetate solvent, 813.  
Triethylamine, 1685, 1755, 2641.  
—, cellulose treated with, 2314.  
—, cotton immunized by, 907.  
—, dichlorethylene stabilized by, 1066.  
—, linen immunized by, 907.  
—, rayon immunized by, 907.  
—, solubility organic compounds in, 2007.  
—, trichlorethylene stabilized by, 1066.  
Tri-ethylbenzene, film made using, 2510.

- Triethylcellulose, alkyl content, 1304.  
—, benzene as solvent for, 1802.  
—, carbon bisulfide solvent of, 150, 286.  
—, crystalline, 116, 149, 1334.  
—, —, solvents for, 1336.  
—, delustring with, 286.  
—, glass, laminated, made using, 2591.  
—, insulator containing, mfr., 2443.  
—, mfr., 116, 148, 293.  
—, matt effect produced by, 286.  
—, properties, 1330.  
—, rotation of, 1335.  
—, solubility, 1330, 1332, 1333.  
—, spectrographic properties, 1370.  
—, *see also Ethylcellulose*.  
Triethyl citrate, 1952.  
Triethyldiacetylglucose, 1368.  
Triethyl-diethyleneglycol, cellulose ether solvent, 172.  
Triethylene glycol, 1839, 1849.  
—, cellulose ether plasticizer, 140.  
—, plastic made containing, 2565.  
—, properties, 1848.  
—, resin of phthalic anhydride and, 795.  
Triethylene glycol benzoate, plastic made containing, 2565.  
Triethyleneglycol caprate, 1939.  
Triethyleneglycol caproate, 1939.  
Triethyleneglycol ethyl ether, 1849.  
Triethyleneglycol laurate, 1939.  
Triethyleneglycol linoleate, 1939.  
Triethyleneglycol monoamyl phosphate, 1855, 1898.  
Triethyleneglycol monobutyl phosphate, 1855.  
Triethyleneglycol monoethyl ether, properties, 1848.  
Triethyleneglycol monoethyl phosphate, 1855, 1898.  
Triethyleneglycol monomethyl phosphate, 1855, 1898.  
Triethyleneglycol monopropyl phosphate, 1855, 1898.  
Triethyleneglycol oleate, 1939.  
Triethyleneglycol palmitate, 1939.  
Triethyleneglycol phosphate monoalkyl ether, cellulose ester plasticizer, 300.  
—, cellulose ether plasticizer, 300.  
Triethyleneglycol phosphate monoamyl ether, cellulose ester plasticizer, 300.  
—, cellulose ether plasticizer, 300.  
Triethyleneglycol phosphate monobutyl ether, cellulose ester plasticizer, 300.  
—, cellulose ether plasticizer, 300.  
Triethyleneglycol phosphate monoethyl ether, cellulose ester plasticizer, 300.  
—, cellulose ether plasticizer, 300.  
Triethyleneglycol phosphate monopropyl ether, cellulose ester plasticizer, 300.  
—, cellulose ether plasticizer, 300.  
Triethyleneglycol ricinoleate, 1939.  
Triethyleneglycol stearate, 1939.  
*Triethyl ether of citric acid, see Ethyl citrate*.  
Triethylethylene, 1809.  
Triethylethyleneglycol, cellulose ether solvent, 172.  
Triethylethylglucoside, 149, 1336.  
Triethylglucose, 73, 149, 1370.  
2,3,6-Triethylglucose, 1336.  
Triethyl-glycerol, cellulose ether solvent, 172.  
Triethylidenemannite, 1886, 1894.  
Triethylmethane, cellulose ether dyeing using, 2237.  
—, cellulose ether solvent, 2227.  
—, solubilizing agent, 2213, 2219.  
Triethyl orthoacetate, cellulose ester solvent, 708.  
Triethylpentaerythritol, cellulose ester plasticizer, 305.  
—, cellulose ether plasticizer, 305.  
—, cellulose ether solvent, 222.  
—, plasticizer, 305.  
Triethylurea, 2029, 2038, 2040.  
—, cellulose acetate plastifier, 634.  
—, plastic made using, 2560.  
Trifluorobenzene, 1826.  
Trifluornaphthalene, 1826.  
Triformin, 1925.  
—, mfr., 362.  
—, *see also Glycerol formate*.  
*Triglyceryl, see Diglyceryl; Glyceryl; Monoglyceryl*.  
Triglyceryl benzoate, 1820.  
Triglyceryl tetracetate, 1924.  
Triglyceryl triacetate, 1924.  
*Triglycol, see Diglycol; Glycol; Monoglycol*.  
*isoTrihexosan*, 885.  
Trihydroquinone phosphate, 1900.

- 1.2.3-Trihydroxyanthraquinone, see *Anthragallol*.  
1.2.6-Trihydroxyanthraquinone, see *Flavopurpurin*.  
1.2.7-Trihydroxyanthraquinone, see *Anthrapurpurin*.  
1.4.6-Trihydroxyanthraquinone, cellulose acetate dyed using, 712.  
—, cellulose ether dyed using, 2281.  
1.2.4-Trihydroxybenzene, see *Hydroxyquinol*.  
3.1.5-Trihydroxybenzene, see *Phloroglucinol*.  
*Trihydroxybenzoic acid*, see *Gallic acid*.  
1.4.6-Trihydroxy-2-chloranthraquinone, cellulose acetate dyed using, 712.  
—, cellulose ether dyed using, 2281.  
Trihydroxyethylamine, 2641.  
Tri-(*b*-hydroxyethyl)-amine, wetting out agents, 1235.  
Tri(hydroxyethyl)cellulose, 1396, 1399.  
—, ethylated, 226.  
Tri-*m*-hydroxyphenyl phosphate, cellulose acetate plastifier, 907.  
Tri-hydroxystearic acid, pentaerythrite condensate of, 303.  
Trihydroxytriethylamine, 2006.  
*Tri-iodo-cresol*, see *Losophan*.  
Tri-iodocresyl acetate, benzylcellulose and, 1568.  
—, benzylcellulose treated with, 1563.  
—, fire retardant, 304, 1374, 1568.  
Tri-iodocresyl formate, benzylcellulose and, 1568.  
—, benzylcellulose treated with, 1563.  
—, fire retardant, 304, 1374, 1568.  
Tri-iodocresyl propionate, benzylcellulose and, 1568.  
—, benzylcellulose treated with, 1563.  
—, fire retardant, 304, 1374, 1568.  
Tri-iodomethane, 1811.  
Tri-iodonaphthyl acetate, benzylcellulose treated with, 1563.  
—, fire retardant, 304, 1374.  
Tri-iodonaphthyl formate, benzylcellulose treated with, 1563.  
—, fire retardant, 304, 1374.  
Tri-iodonaphthyl propionate, benzylcellulose treated with, 1563.  
—, fire retardant, 304, 1374.  
Tri-iodophenyl acetate, benzylcellulose and, 1568.  
—, benzylcellulose treated with, 1563.  
—, fire retardant, 304, 1374, 1568.  
Tri-iodophenyl formate, benzylcellulose and, 1568.  
—, benzylcellulose treated with, 1563.  
—, fire retardant, 304, 1374, 1568.  
Tri-iodophenyl propionate, benzylcellulose and, 1568.  
—, benzylcellulose treated with, 1563.  
—, fire retardant, 304, 1374, 1568.  
Tri-iodoxylenyl acetate, benzylcellulose and, 1568.  
—, benzylcellulose treated with, 1563.  
—, fire retardant, 304, 1374, 1568.  
Tri-iodoxylenyl propionate, benzylcellulose and, 1568.  
—, benzylcellulose treated with, 1563.  
—, fire retardant, 304, 1374, 1568.  
Tri-iodoxylenyl propionate, benzylcellulose and, 1568.  
—, benzylcellulose treated with, 1563.  
—, fire retardant, 304, 1374, 1568.  
Trimellitic acid, 7.  
Tri-mesitylene, film made using, 2510.  
1.4.5-Trimethoxyanthraquinone, cellulose ester dyed with, 195.  
—, cellulose ether dyed with, 195, 2262.  
1.4.8-Trimethoxy-anthraquinone, cellulose ester using, 243.  
—, cellulose ether dyed using, 243.  
1.4.8-Trimethoxy-anthraquinone-1.4-dithioldimethyl ether, cellulose ester dyed using, 243.  
—, cellulose ether dyed using, 243.  
l-2.3.5-Trimethoxyarabonolactone, 1500.  
d-Trimethoxyglutaric acid, 1499.  
2.3.4-Trimethoxy-l-glutaric acid, 1502.  
Trimethoxyhydroxyvaleric acid, 1500.  
*Trimethyl*, see *Dimethyl*; *Methyl*; *Monomethyl*.  
Trimethylacetaldehyde, 1883.  
Trimethylacetic acid, mfr., 705.  
Trimethylacetoneglucose, 1509.

- 3.5.6-Trimethyl-1.2-acetone glucose, 81.  
Trimethyl alcohol, cellulose acetate solvent, 813.  
Trimethylamine, 1251, 1389, 1647, 2006, 2028.  
—, cellulose acetate solvent, 891.  
—, cellulose nitrate solvent, 891.  
—, dichlorethylene stabilized by, 1066.  
—, trichlorethylene stabilized by, 1066.  
2.5.8-Tri(methylamino)-1.4-naphthaquinone, cellulose acetate dyed using, 2246.  
—, cellulose ether dyed with, 198.  
Trimethyl ammonium hydroxide, 2029.  
Tri-methylammonium iodide, cellulose etherified using, 274.  
Trimethylanhydrofructose, 1320, 1505.  
Trimethyl-*d*-arabinose, 1500.  
Trimethyl-*l*-arabinose, 1499, 1500.  
2.3.4-Trimethylarabinose, 1500.  
2.3.4-Trimethyl-*l*-arabinose, 1499.  
*l*-2.3.5-Trimethylarabinose, 1500.  
Trimethyl-*l*-arabinose diamide, 1499.  
Trimethyl-*l*-arabinose methylamide, 1499.  
Trimethylarabomethoxymannonitrile, 1500.  
2.3.4-Trimethylarabonolactone, 1499.  
*d*-2.3.4-Trimethylarabonolactone, 1500.  
*d*-2.3.5-Trimethylarabonolactone, 1498, 1500.  
Trimethylbenzene, 1806.  
*sym*-Trimethylbenzene, *see* *Mesitylene*.  
*unsym*-Trimethylbenzene, *see* *Cumene*.  
Trimethylcarbinol, *see* *ter-Butyl alcohol*.  
Trimethylcellulose, 34, 37, 1107, 1128, 1305, 1306, 1310, 1311, 1316, 1323, 1325, 1480, 1624, 1650, 1686.  
—, acetolysis of, 232, 279.  
—, alcohol, solid, made using, 2481.  
—, alkyl content, 1304.  
—, association of, 116.  
—, crystalline, 116.  
—, —, mfr., 125.  
—, crystallizable, 1315, 1317.  
—, decomposition of, 1328.  
Trimethylcellulose, depolymerization of, 37.  
—, fibrous, 1310.  
—, glass, laminated, made using, 2591.  
—, hydrolysis of, 37.  
—, insoluble, 149.  
—, mfr. of, 73, 74.  
—, molecular weight of, 232.  
—, properties, 77, 1315, 1317.  
—, rotation of, 1335.  
—, solubility, 1310, 1319.  
—, viscosity, 1318.  
—, X-ray diagram of, 149, 232, 1325.  
ByC-Trimethylcellulose, X-ray diagram of, 149.  
Trimethylcellulose A, 74, 75, 1312, 1313.  
—, crystallizable, 1314.  
—, mfr., 1314.  
—, purification, 1314.  
Trimethylcellulose acetate, solubility, 1309.  
2.3.6-Trimethyl-1-chloroglucose, 146, 1311.  
Trimethyl citrate, 1952.  
2.2.5-Trimethylcyclohexanone, 1987.  
1.1.2-Trimethylcyclopentene, cellulose ether solvent, 2227.  
—, solubilizing agent, 2213, 2219.  
Trimethyl-diethyleneglycol, cellulose ether solvent, 172.  
Trimethylene, 1979.  
Trimethylene dichloride, 1820.  
Trimethylene glycol, 1838, 1874.  
—, celluloid solvent, 890.  
—, cellulose acetate solvent, 890.  
—, cellulose ether solvent, 2103.  
—, cellulose etherified by, 1383.  
—, *see also* *Propylene glycol*.  
Trimethylene glycol abietate, 1955.  
Trimethyleneglycol chlorhydrin, cellulose etherified by, 1401.  
Trimethyleneglycol dibutyrate, 1937.  
—, cellulose ester plasticizer, 303.  
—, cellulose ether plasticizer, 303.  
Trimethyleneglycol distearate, 1940.  
Trimethyleneglycol hexastearate, 1940.  
Trimethyleneglycol monomethyl ether, 1855.  
Trimethyleneglycol monostearate, 1940.



- Trimethyleneglycol phosphate  
monoalkyl ether, cellulose  
ester plasticizer, 300.  
—, cellulose ether plasticizer, 300.
- Trimethyleneglycol phosphate  
monoamyl ether, cellulose  
ester plasticizer, 300.  
—, cellulose ether plasticizer, 300.
- Trimethyleneglycol phosphate  
monobutyl ether, cellulose  
ester plasticizer, 300.  
—, cellulose ether plasticizer, 300.
- Trimethyleneglycol phosphate  
monoethyl ether, cellulose  
ester plasticizer, 300.  
—, cellulose ether plasticizer, 300.
- Trimethyleneglycol phosphate  
monomethyl ether, cellulose  
ester plasticizer, 300.  
—, cellulose ether plasticizer, 300.
- Trimethyleneglycol phosphate  
monopropyl ether, cellulose  
ester plasticizer, 300.  
—, cellulose ether plasticizer, 300.
- Trimethyleneglycol ricinoleate,  
stencil sheet made using, 2497.
- Trimethyleneglycol tetrastearate,  
1940.
- Trimethyleneglycol tristearate,  
1940.
- Trimethylene oxide, 1381.  
—, carbohydrates compound with,  
64.  
—, cellulose compound with, 64.  
—, dextrin compound with, 64.  
—, starch compound with, 64.  
—, sugar compound with, 64.  
—, tragacanth compound with, 64.
- Trimethylethylammonium iodide,  
1749.
- Trimethylethylene, celluloid sol-  
vent, 890.  
—, cellulose acetate solvent, 890,  
1785.  
—, *see also Amylene; Pental.*
- Trimethylethyleneglycol, cellulose  
ether solvent, 172.
- Trimethylethylglucoside, 1310.
- 3.4.6-Trimethylfructofuranose,  
1158.
- Trimethylfructose, 1320, 1505,  
1506, 1507.  
1.3.4-Trimethylfructose, 1505.  
2.4.6-Trimethylfructose, 1500.  
3.4.5-Trimethylfructose, 1506.  
2.4.6-Trimethyl-d-fructose, 1506.
- 2.3.5-Trimethylfructosemonoace-  
tone, 1505.
- 3.4.6-Trimethylfructuronic acid,  
1506.
- Trimethylgalactose, 1502.
- Trimethylgalactoside, 1507.
- Trimethylglucal, 1509.
- 2.3.6-Trimethylglucopyranose,  
1324.
- Trimethylglucosan, 190.
- Trimethylglucose, 31, 32, 33, 37, 74,  
432, 1126, 1128, 1162, 1311, 1478,  
1508, 1509.  
—, crystalline, 1128.  
—, osazone of, 32.  
—, properties, 1330.  
a-Trimethylglucose, 32.
- 2.3.4-Trimethylglucose, 1320, 1509.
- 2.3.6-Trimethylglucose, 37, 75, 80,  
123, 189, 1102, 1103, 1111, 1112,  
1180, 1306, 1312, 1320, 1322, 1480,  
1487, 1496, 1508, 1509, 1510, 1624.  
—, mfr. of, 79, 252.  
—, properties, 1330.
- 3.5.6-Trimethylglucose, 82.
- Trimethylglucose anhydride, 146,  
189, 1328.
- Trimethylglucose-methylglucoside,  
1313.
- Trimethylglucose-a-methylgluco-  
side, 74.
- Trimethylglucoside, 1128.
- Trimethyl-b-glucoside, 1131.
- Trimethyl glycerol, 1497.
- , cellulose ether solvent, 172.
- Trimethylglycoll, *see Betaine.*
- Trimethylglycogen, 1496.
- Trimethyl glycol, cellulose acetate  
solvent, 1785.
- Trimethylhexose, 31.
- Trimethylinulin, 1158, 1159, 1160,  
1320, 1506.
- Trimethyllevan, 1505.
- 2.3.4-Trimethyl-lyxofuranose, 1499.
- Trimethyl-lyxonolactone, 1499,  
1500.
- Trimethyllyxose, 277, 1501.
- 2.3.4-Trimethyl-lyxose, 1499.
- Trimethylmannose, 1504.
- Trimethylmannoside, 1507.  
—, mfr. of, 42.
- Trimethylmethane, *see iso-Butane.*
- 2.3.4-Trimethyl-d-methyl-d-arabin-  
ose, 1500.
- Trimethylmethylarabinoside, 1499.
- 2.3.4-d-Trimethyl-a-methylarabino-  
side, 1500.

- l*-1.2.3.4-Trimethyl-*b*-methylarabinoside, 1500.  
*a*-Trimethylmethylarabinosides, 1500.  
*b*-Trimethylmethylarabinosides, 1500.  
1.3.4-Trimethylmethylfructoside, 1506.  
3.4.6-Trimethylmethylfructoside, 1506.  
Trimethyl-*a*-methylgalactoside, 1502.  
Trimethylmethylglucoside, 37, 81, 123, 125, 1164, 1306, 1313, 1478, 1479, 1480, 1508.  
—, mfr. of, 79.  
Trimethyl-*a*-methylglucoside, 2, 1509.  
2.3.4-Trimethyl-*B*-methylglucoside, 1509.  
2.3.5-Trimethyl-methylglucoside, 81.  
2.3.6-Trimethylmethylglucoside, 1310, 1477, 2622.  
*a*-2.3.6-Trimethylmethylglucosides, 1127.  
*b*-2.3.6-Trimethylmethylglucosides, 1127.  
2.3.6-Trimethyl-*b*-methylglucoside, 1128, 1510.  
—, mfr. of, 230.  
3.5.6-Trimethyl-methylglucoside, 82, 1509.  
Trimethyl methyl-lyxofuranoside, 1499.  
Trimethylmethyl-lyxoside, 1499.  
Trimethylmethylmannoside, 1504.  
Trimethyl-*a*-methyl-*l*-rhamnoside, 1498.  
2.3.4-Trimethylmethylxyloside, 1501.  
2.3.4-Trimethyl-*a*-methylxyloside, 1501.  
Trimethyl*n*-naphthalene, cellulose nitrate with, 1808.  
Trimethyl orthoacetate, cellulose ester solvent, 708.  
Trimethyloxy-*v*-methylglucoside, 43.  
Trimethylpentaerythrite, cellulose ether solvent, 222.  
3.5.6-Trimethyl-2-phosphoric acid methyl glucoside, 82.  
*2.4.6-Trimethylpyridine*, see *Collidine*.  
Trimethylrhammonic acid, 1498.  
Trimethyl-*l*-rhamnose, 1498.  
Trimethyl starch, 123, 1471, 1477, 1480, 1487, 1495, 1496.  
—, hydrolysis, 1480.  
Trimethylurea, 2029, 2038, 2040.  
—, cellulose acetate plastifier, 634.  
—, cellulose acetate solvent, 453.  
—, plastic made using, 2560.  
*Trimethylxanthine*, see *Caffeine*.  
2.3.4-Trimethylxylonic acid, 1501.  
2.3.5-Trimethylxylonolactone, 1497.  
*l*-2.3.4-Trimethylxylonolactone, 1501.  
2.3.5-Trimethyl-*v*-xylonolactone, 1501.  
2.3.4-Trimethylxylopyranose, 974.  
Trimethylxylose, 1501.  
2.3.4-Trimethylxylose, 277, 1501.  
*l*-2.3.4-Trimethylxylose, 1501.  
Trimonomethylaminoanthraquinone, cellulose ester dyed with, 197.  
—, cellulose ether dyed with, 197.  
*Trimyristin*, see *Myristin*.  
Trinaphthyl carbonate, 1906.  
Trinaphthyl phosphate, 1895.  
—, benzylcellulose solvent, 1554.  
—, cellulose acetate plastifier, 377.  
Trinaphthyl thiophosphate, 1896.  
2.4.6-Trinitro-1-aminobenzene, cellulose ether dyed using, 2256.  
2.4.6-Trinitroaniline, amines solvent for, 2013.  
Trinitroanisole, 2004.  
Trinitrobenzene, 2003.  
2.3.5-Trinitrobenzene, amines solvent for, 2013.  
Trinitrocellulose, X-ray data of, 1120.  
2.4.6-Trinitro-*m*-cresol, cellulose ether dyed with, 168, 2262.  
*Trinitromethane*, see *Nitroform*.  
Trinitronaphthalin, 2003.  
Trinitrophenetol, 2004.  
*Trinitrophenol*, see *Picric acid*.  
Trinitrotoluene, 1564, 1968, 2003, 2004, 2005.  
—, explosive containing, 395.  
2.4.6-Trinitrotoluene, amines solvent for, 2013.  
Triolein, 1655, 1708.  
—, see also *Olein*.  
Trional, 2024.  
Trioses, 1497.  
*iso*Triose, mfr., 700.  
*1.2.4-Trioxanthraquinone*, see *Purpurine*.

- Trioxybenzophenone, 1888, 1889, 1890.  
—, *see also Salicylresorcin.*  
*Trioxydiphenylcarbinol anhydride*,  
  *see Rosolic acid.*  
*Trioxylglutaric acid*, *see Adonit.*  
Trioxymethylene, 1290, 1622, 1845.  
—, catalyst in cellulose acetate  
  mfr., 428, 467, 483.  
—, cellulose and, 1620.  
—, cellulose compared with, 467.  
—, cellulose made from, 466.  
—, plastic containing, 475.  
—, starch and, 1620.  
Tri-*m*-oxyphenyl phosphate, 1899,  
  1986.  
*Tripalmitin*, *see Palmitin.*  
Tri-penta-propylene, 1853.  
*Triphenol phosphate*, *see Triphenyl*  
  *phosphate.*  
*Triphenyl*, *see Diphenyl, Mono-*  
  *phenyl, Phenyl.*  
Triphenyl borate, 1901, 1909.  
Triphenylcarbinol, 70, 71, 1633,  
  1634.  
—, cellulose compound with, 70.  
Triphenylcellulose, 7.  
Triphenylcellulose acetylanthra-  
  nilate, mfr. of, 1742.  
Triphenylcellulose acetylbenzoyl-  
  anthranilate, mfr., 1742.  
Triphenylcellulose acetylbenzoyl-  
  phthalate, mfr., 1742.  
Triphenylcellulose acetyl phthalate,  
  mfr., 1742.  
Triphenylcellulose benzoylanthra-  
  nilate, mfr., 1742.  
Triphenylcellulose benzoylphtha-  
  late, mfr., 1742.  
Triphenylcellulose butyrylanthra-  
  nilate, mfr., 1742.  
Triphenylcellulose butyrylphtha-  
  late, mfr., 1742.  
Triphenylchlormethane, 1633, 1634,  
  1635.  
Triphenylguanidine, 2014.  
—, benzylcellulose combined with,  
  282.  
—, benzylcellulose stabilizer, 1564,  
  1574.  
—, butylcellulose combined with,  
  282, 1340.  
—, butylcellulose stabilizer, 1574.  
—, coating containing, 282.  
—, film containing, 282.  
—, lacquer containing, 282, 2416.  
—, stabilizer, 1574.  
Triphenylmethane, amines solvent  
  for, 2013.  
—, cellulose acetate dyed using,  
  530.  
—, light filter containing, 63.  
—, ultraviolet rays absorbed by, 63.  
Triphenylmethane bases, cellulose  
  ether lacquer containing, 155.  
Triphenylmethane dyestuffs, cellu-  
  lose acetate dyed by, 512.  
Triphenylmethoxyphosphorous  
  dichloride, 1647.  
Triphenylmethylallyl ether, mfr.  
  of, 71.  
Triphenylmethylcellulose, 1633.  
—, mfr. of, 71, 1625.  
—, properties, 1634.  
Triphenylmethylcellulose acetate,  
  mfr. of, 71.  
Triphenylmethylcetyl ether, mfr.  
  of, 71.  
Triphenylmethyl chloride, 1503.  
6-Triphenylmethyl ether, mfr. of,  
  294.  
Triphenylmethylglycerol ether,  
  mfr. of, 71.  
Triphenylmethylglycol ether, mfr.  
  of, 71.  
Triphenylmethylpropyl ether, mfr.  
  of, 71.  
Triphenylmethylisopropyl ether,  
  mfr. of, 71.  
Triphenylmethylpyrocatechol ether,  
  mfr. of, 71.  
Triphenylmethylstarch, mfr. of,  
  71, 1635.  
Triphenylmethylstarch acetate,  
  mfr. of, 71.  
Triphenyl phosphate, 162, 251,  
  487, 1090, 1581, 1582, 1670, 1810,  
  1843, 1895, 1897, 1898, 1900, 1901,  
  1933, 1941, 1962, 1964, 1966, 1968,  
  1994, 2020, 2026, 2027, 2029, 2034,  
  2037, 2040.  
—, abrasive containing, 940.  
—, airplane dope containing, 442.  
—, benzylcellulose combined with,  
  1364, 1570.  
—, benzylcellulose dissolved by,  
  249.  
—, benzylcellulose plastifier, 1575,  
  1579, 2597.  
—, benzylcellulose solvent, 1545,  
  1554.  
—, benzylcellulose treated with,  
  1561.  
—, block, molded, made using, 162.

- Triphenyl phosphate, camphor substitute, 2052.
- , cellulose acetate film made using, 645.
  - , cellulose acetate fire-retardant, 475.
  - , cellulose acetate inflammability reduced by, 558.
  - , cellulose acetate plastic, 571, 702.
  - , cellulose acetate plastifier, 377, 391, 502, 521, 559, 575, 592, 795, 862, 1027.
  - , cellulose acetate solvent, 407, 421, 469, 470, 471, 472, 580, 699, 1692, 1818, 1843.
  - , cellulose ether plastic with, 64, 2635.
  - , cellulose ether solvent, 1841.
  - , cigarette tip containing, 2432.
  - , cigarette tip coated using, 788.
  - , collar waterproofed by, 566.
  - , crystal effects produced with, 2429.
  - , ethylcellulose combined with, 1364.
  - , ethylcellulose plastifier, 2597.
  - , ethylcellulose solvent, 19.
  - , fabric coated using, 2485.
  - , filament, artificial, made using, 1000.
  - , film made using, 443, 531, 2502, 2503, 2505, 2518, 2529.
  - , fire-retardant, 1374.
  - , flash point, 2061.
  - , horn, artificial, made using, 2608.
  - , inflammability reduced by, 43, 2527.
  - , jointing material made using, 2439.
  - , lacquer made using, 541, 645, 723, 740, 1573.
  - , lacquer, fireproof, containing, 520.
  - , methylcellulose combined with, 1364.
  - , methylcellulose plastifier, 2597.
  - , physical constants, 1793.
  - , plastic made using, 2560.
  - , plate, acoustic, made using, 703.
  - , purifying, 487.
  - , record, phonograph, made using, 162, 990, 2604.
  - , solvent power of, 595.
  - , starch ether solvent, 1483.
  - , tube made using, 2439.
- Triphenyl phosphate, uses, 1902, 1903.
- , viscosity cellulose acetate dissolved in, 595.
  - , waterproofing, regenerated cellulose for, 2412.
  - , wire coated with, 2554.
  - , wool, artificial, made using, 467.
- Triphenylselenium iodide, amines solvent for, 2013.
- Triphenyl thiophosphate, 1896.
- Triplex, mfr., 836.
- , *see also Safety glass.*
- Triplex glass, mfr., 2583.
- , *see also Glass, laminated.*
- Triple X paste, mfr., 2612.
- Tripoli, film polished with, 2519.
- Tripotassium phosphate, safe ironing temperature raised by, 2165.
- Tripropionin, cellulose ester solvent, 267.
- , cellulose ether dyeing using, 2237.
  - , cellulose ether solvent, 267.
- Tripropyl, see Dipropyl, Monopropyl, Propyl.*
- Tripropyl cellulose, alkyl content, 1304.
- Tripropyl citrate, 1952.
- Tripropyl-diethyleneglycol, cellulose ether solvent, 172.
- Tripropylene glycol phosphate monoalkyl ether, cellulose ester plasticizer, 300.
- , cellulose ether plasticizer, 300.
- Tripropylene glycol phosphate monoamyl ether, cellulose ester plasticizer, 300.
- , cellulose ether plasticizer, 300.
- Tripropylene glycol phosphate monobutyl ether, cellulose ester plasticizer, 300.
- , cellulose ether plasticizer, 300.
- Tripropylene glycol phosphate monoethyl ether, cellulose ester plasticizer, 300.
- , cellulose ether plasticizer, 300.
- Tripropylene glycol phosphate monomethyl ether, cellulose ester plasticizer, 300.
- , cellulose ether plasticizer, 300.
- Tripropylene glycol phosphate monopropyl ether, cellulose ester plasticizer, 300.
- , cellulose ether plasticizer, 300.
- Tripropyl-ethyleneglycol, cellulose ether solvent, 172.

- Tripropyl-glycerol, cellulose ether solvent, 172.  
Tripropylpentaerythrite, cellulose ether solvent, 222.  
Tripropyl phosphate, 1899.  
Triresorcinol phosphate, 1899, 1900.  
Trisaccharide, 1116.  
—, methylated, 189.  
Trisazo dye, solubilizing, 2211.  
Trisodium phosphate, cellulose acetate dyed using, 578.  
—, lacquer containing, 2422.  
—, safe ironing temperature raised by, 2165.  
Tris-(3-oxyphenyl)-phosphate, 1896.  
*Tristearin*, see *Stearin*.  
Trithiopyroglycide, cellulose acetate plasticizer, 342.  
Tri-toluene, film made using, 2510.  
*Tritolyl*, see *Ditolyl*, *Monotolyl*, *Tolyl*.  
Tritolyl phosphate, 246, 1090, 1568, 1582, 2016, 2378.  
—, benzylcellulose dissolved, by, 249.  
—, cellulose acetate plastifier, 862.  
—, film made using, 2506.  
—, floor covering made using, 2437.  
—, glass, laminated, made using, 2595.  
—, plasticizing value, 1794.  
—, see also *Tricresyl phosphate*.  
Tri-iso-valerin, 1708.  
Tri-xylene, film made using, 2510.  
*Trixylyl*, see *Dixylyl*, *Monoxylyl*, *Xylyl*.  
Tro, 701.  
Trolit, 2568.  
Trolitan S, plastic of, 2566.  
Trolitul, plastic of, 2566.  
Trolit W, plastic of, 2566.  
Trypsin, silk degummed using, 685.  
Tsubaki, stencil sheet made using, 664.  
Tsubaki oil, stencil sheet made using, 664, 976, 2490.  
Tube, aluminum foil in mfr., 819.  
—, celluloid coated, 819.  
—, cellulose acetate, 898.  
—, cellulose acetate coated, 819.  
—, cellulose acetate, mfr., 439, 449, 530, 618.  
—, cellulose ether for coating, 254.  
—, cigarette, cellulose acetate coated, 514.  
—, coating, 254.  
Tube, collapsible, cellulose acetate, 898.  
—, —, cellulose ether for mfr., 2448.  
—, —, mfr. of, 2392.  
—, electron discharge cellulose acetate in mfr., 687.  
—, gelatin in mfr., 819.  
—, mfr., 2439.  
—, metallic, cellulose acetate coated, mfr., 497.  
Tubing, insulating, mfr., 2438.  
—, rubber, cellulose acetate coated, 651.  
—, —, mfr., 2544.  
*Tubular filament*, see *Filament*, *artificial*, *tubular*.  
Tumors, malignant, treatment, 2446.  
Tung oil, 1969.  
—, butyl acetate solvent of, 1919.  
—, carbon dioxide treatment of, 984.  
—, cellulose acetate marking ink containing, 603.  
—, cellulose ether plastifier, 244.  
—, hydrogen sulfide treatment of, 984.  
—, hydrogen treatment of, 984.  
—, insulating with, 923.  
—, lacquer containing, 2393.  
—, plastic made using, 2579.  
—, sulfur dioxide treatment of, 984.  
Tungstates, acetic anhydride mfr. using, 753.  
—, cellulose acetate dyed using, 504.  
Tungsten, loading benzylcellulose with salts of, 1584.  
Tungsten borate, catalyst, 866.  
Tungsten chloride, cellulose acetate loaded with, 637.  
—, weighting cellulose ether by, 229.  
Tungsten oxide, catalyst in acet-aldehyde mfr., 781.  
—, catalyst in acetic acid mfr., 781.  
—, delustring using, 2179.  
Tungsten phosphate, benzylcellulose loaded with, 1590.  
—, catalyst, 866.  
—, cellulose acetate loaded by, 623.  
—, ethylcellulose loaded with, 1590.  
—, weighting fabric with, 110.  
Tungsten resinate, 1947.

- Tungsten salt, benzylcellulose loaded with, 137.
- , ethylcellulose loaded with, 137.
- , methylcellulose loaded with, 137.
- Tungsten silicate, benzylcellulose loaded with, 1590.
- , catalyst, 866.
- , cellulose acetate loaded by, 623.
- , ethylcellulose loaded with, 1590.
- , weighting fabric with, 110.
- Tungsten tannate, benzylcellulose loaded with, 1590.
- , ethylcellulose loaded with, 1590.
- Tungstic acid, acetic anhydride mfr. using, 753, 754, 769.
- Turkey red oil, 180, 1378, 2242.
- , benzylcellulose purified by, 1546.
- , cellulose acetate dyed using, 649, 673.
- , cellulose acetate wetting agent, 866.
- , cellulose ether dyed using, 2293, 2294.
- , cellulose ether softener, 2121.
- , delustring with, 2183.
- , dispersing agent, 2209.
- , dyes dissolved in, 527.
- , printing fabric using, 2328.
- , silk degummed with, 723.
- , tinting cellulose ether using, 2231.
- , *see also Sodium ricinoleate; Sodium sulforicinate.*
- Turpene chloride, 2047.
- Turpentine, 1983, 1998.
- , cellulose acetate with as plastic, 579.
- , cellulose ether dyeing using, 2238.
- , cellulose ether solvent, 2227.
- , chlorinated, 2046.
- , delustring with, 2181.
- , dye solvent, 684.
- , essence, 2046.
- , ethylcellulose combined with, 2410.
- , plastic containing, 2571.
- , rubber combined with, 2410.
- , stencil sheet made using, 2491.
- , *Venice, see Venice Turpentine.*
- Turpentine oil, 1672, 2045.
- , aluminum naphthenate solvent of, 107.
- , aluminum resinate solvent of, 107.
- Turpentine oil, ammonium naphthenate solvent of, 107.
- , ammonium resinate solvent of, 107.
- , calcium naphthenate solvent of, 107.
- , calcium resinate solvent of, 107.
- , cellulose acetate solvent, 1819.
- , cellulose ether solvent, 1841.
- , dichlorethylene stabilized by, 1066.
- , ethylbutylcellulose and for lacquer mfr., 2426.
- , ethyl cellulose solvent, 19, 1300.
- , magnesium naphthenate solvent of, 107.
- , magnesium resinate solvent of, 107.
- , methylbutylcellulose and for lacquer mfr., 2426.
- , potassium naphthenate solvent of, 107.
- , potassium resinate solvent of, 107.
- , sodium naphthenate solvent of, 107.
- , sodium resinate solvent of, 107.
- , starch ether solvent, 1483.
- , trichlorethylene stabilized by, 1066.
- , zinc naphthenate solvent of, 107.
- , zinc resinate solvent of, 107.
- Turquoise blue G, cellulose ether dye, 2222.
- Twill, cellulose acetate, dyeing, 1001.
- , physical properties of, 657.
- Twitchell reagent, 639.
- , solubilizing agent, 2211.
- Tylose S, 2136.
- Tyndall change, 280.
- Tyndall effect, 992.
- Tyndall light, 800.
- Tyndall number, 561.
- Typhoxylin, see Cellulose nitrate.*
- Tyrosine, amines solvent for, 2013.
- Ultrafilter, cellulose acetate in mfr. of, 537, 589, 638.
- , cellulose ether in mfr. of, 2458, 2459.
- Ultrafiltration, cellulose acetate solvent, 524.
- Ultramarine, 192.
- , cellulose acetate dyed with, 568.

- Ultramarine, cellulose acetate marking ink containing, 603.  
—, emulsion containing, 2456.  
—, fabric coated using, 2483.  
—, film identified using, 669.  
—, film made using, 2505.  
—, paint containing, 2456.  
—, plastic made using, 2573.  
—, transfer made using, 2550.  
*Ultramarine blue*, see *Ultramarine*.  
*Ultraviolet light*, see *Light*, *ultraviolet*.  
Ultraviolet rays, absorbing, 63.  
—, cellulose acetate viscosity reduced by, 601.  
—, triphenylmethane as absorbent for, 63.  
*Unbreakable glass*, see *Glass*, *laminated*.  
Undecamethylmaltotriose, 1131.  
Undecanaphthene, cellulose ether solvent, 106, 2227.  
—, solubilizing agent, 2213.  
Undecenoic acid, cellulose acetate solvent, 1785.  
Undecoic acid, celluloid solvent, 890.  
—, cellulose acetate solvent, 890.  
*n*-Undecoic acid, celluloid solvent, 890.  
—, cellulose acetate solvent, 890, 1783.  
Undecylenic acid, cellulose esterified by, 807.  
Undecylenosulfonic acid, cellulose ether softener, 234.  
Undecylic acid, 1655.  
Union, cellulose acetate-cotton, finishing, 921.  
—, cotton-cellulose acetate, finishing, 921.  
Union, dyeing, 723.  
—, fraying, preventing, 2359.  
—, ravelling, preventing, 2359.  
Union Dark-blue R, cellulose acetate dyed using, 690.  
—, viscose dyed using, 690.  
—, wool dyed using, 690.  
Union fabric, dyeing, 708.  
Union goods, cellulose acetate, dyeing, 852.  
—, dyeing, 733.  
*Unsplinterable glass*, see *Glass*, *laminated*.  
*Ural*, see *Chloralurethane*.  
*Uraline*, see *Chloralurethane*.  
*Uralium*, see *Chloralurethane*.  
Uranium oxide, catalyst in acetic acid mfr., 957.  
—, delustring using, 2179.  
Uranyl formate, acetic acid detected with, 990.  
Urea, 266, 327, 456, 463, 746, 851, 1087, 1645, 1696, 1748, 1764, 1857, 1873, 1877, 1994, 1960, 2026, 2027, 2028, 2030, 2032, 2054, 2080, 2352, 2421.  
—, acetic acid concentrated using, 782.  
—, amines solvent for, 2013.  
—, benzylcellulose loaded with, 1590.  
—, benzylcellulose plastifier, 1578.  
—, benzylcellulose stabilized by, 102.  
—, benzylcellulose treated with, 1561.  
—, cellulose acetate dyed using, 530.  
—, cellulose acetate inflammability reduced by, 942.  
—, cellulose acetate plastic containing, 523.  
—, cellulose acetate precipitant, 785.  
—, cellulose acetate solvent, 407, 421.  
—, cellulose acetate swelling agent, 636.  
—, cellulose acetate nitrate made using, 1063.  
—, cellulose ester swelled by, 132.  
—, cellulose ether dyed using, 2295.  
—, cellulose ether film strengthened by, 1379.  
—, cellulose ether insolubilized by, 2422.  
—, cellulose ether plasticizer, 1371, 2217.  
—, cellulose ether precipitant, 64, 2087.  
—, cellulose ether softener, 2155, 2183.  
—, cellulose ether solvent, 141, 186, 1841.  
—, cellulose ether stabilizer, 132.  
—, cellulose ether swelled by, 132.  
—, cellulose ether with, 151.  
—, cellulose nitrate stabilizer, 132.  
—, colors, cellulose ether dyed using, 2286.  
—, condensate containing, 2442.  
—, condensate of, cellulose acetate with, 923.

- Urea, crystal effects produced with, 2429.
- , delustring by, 198, 286, 932, 2184.
- , diphenylolcycloparaffin condensate with, 261.
- , dispersing agent, 2214.
- , dull effect produced using, 2363.
- , ethylcellulose loaded with, 1590.
- , ethylcellulose stabilized by, 102.
- , ethylcellulose strengthened by, 1379.
- , film made using, 2522.
- , formic acid concentrating using, 993.
- , glass, laminated, made using, 2585.
- , glass substitute of condensate containing, 836.
- , matt effect on cellulose ether by, 243.
- , matt effect produced by, 286, 2363.
- , methylcellulose stabilized by, 102.
- , plastic made containing, 2563, 2564.
- , screen, fluorescent, made using, 2541.
- , softener, 2215.
- , stabilizer, 1564.
- , substituted, 2029.
- , triphenyl phosphate and as solvent, 1901.
- Urea-acetal condensate, 119.
- Urea acetate, 2028, 2029.
- Urea-acetophenone condensate, 119.
- Urea-aldehyde, plastic made using, 2576.
- Urea-aldehyde resin, cellulose acetate combined with, 736.
- , plastic made using, 2559.
- Urea benzoate, 2028.
- Urea-benzyl alcohol condensate, 119.
- Urea-butyleneglycol condensate, 119.
- Urea butyrate, 2028.
- Urea derivative, benzylcellulose stabilized by, 102.
- , ethylcellulose stabilized by, 102.
- , methylcellulose stabilized by, 102.
- Urea-ethyl alcohol condensate, 119.
- Urea-formaldehyde, 194, 2030.
- Urea-formaldehyde, cellulose ether combined with, 117.
- , glass, laminated, made using, 2585.
- , plastic made using, 997.
- Urea formate, 2028.
- Urea-glycerol condensate, 119.
- Urea-hexamethylamine condensate, ethylcellulose combined with, 152.
- Urea naphthoate, 2028.
- Urea nitrate, 2028.
- , cellulose acetonitrile made in presence of, 783, 791, 979.
- Urea oxalate, 2028.
- Urea-phenol-aldehyde resin, glass, laminated, made using, 2586.
- Urea propionate, 2028.
- Urea salicylate, 2028.
- Urea sulfate, 2028.
- Urea-thiourea-dicyanodiamide resin, glass, laminated, made using, 2586.
- Urea valerate, 2028.
- Ureide, delustring with, 2184.
- Ureoid bases, benzylcellulose loaded with, 1590.
- , cellulose ether solvent, 186.
- , ethylcellulose loaded with, 1590.
- Urethane, 1645, 1955, 1956, 2005.
- , benzylcellulose loaded with, 1590.
- , cellulose acetate softener, 2029, 2215.
- , cellulose acetate inflammability reduced by, 942.
- , cellulose acetate swelling agent, 636.
- , cellulose ester swelled by, 132.
- , cellulose ether dyed using, 2287.
- , cellulose ether softener, 2155, 2183, 2217.
- , cellulose ether solvent, 141.
- , cellulose ether swelled by, 132, 217.
- , delustring with, 217.
- , dispersing agent for, 2214.
- , ethylcellulose loaded with, 1590.
- , water-insoluble, 2629.
- Urethane-acetal condensate, 119.
- Urethane-acetophenone condensate, 119.
- Urethane-benzyl alcohol condensate, 119.
- Urethane-butyleneglycol condensate, 119.
- Urethane-ethyl alcohol condensate, 119.



- Urethane-glycerol condensate, 119.  
Uric acid, amines solvent for, 2013.  
—, iodized, 2446.  
*Uric oxide*, see *Uric acid*.  
Uronic acid, 1182.  
Uronic anhydride, 1178.  
*Urotropine*, see *Hexamethylene-tetramine*.  
Urtica, flax purified by, 1179.  
*Uvic acid*, see *Racemic acid*.
- Valamin*, see *Isoamylisovalerate*.  
*Valeral*, see *iso-Valeraldehyde*.  
*iso-Valeraldehyde*, 1857, 1883.  
*Valerianic acid*, see *Valeric acid*.  
Valerianic esters, 1937.  
*Valerianic ether*, see *Ethyl valerianate*.  
*iso-Valeric acid*, see *iso-Pro-pylacetic acid*.  
*iso-Valeric aldehyde*, see *iso-Valeraldehyde*.  
Valeric ether, 1869, 1962.  
Valerin oil, 2044.  
Valerolactone, cellulose acetate solvent, 662.  
Valerone, 1877.  
—, see also *Di-isobutyl ketone*.  
*Valeronitrile*, see *Butyl cyanide*.  
Valerylaminiline, 2018.  
Valerylbutylaniline, 2018.  
*Valerylene hydroiodide*, see *Iodo-amylene*.  
Valerylethylaniline, 2018.  
*Valerylhydrocellulose*, see *Hydro-cellulose valerianate*.  
Valerylmethylaniline, 2018.  
Valerylpropylaniline, 2018.  
Validol, 1938.  
Valve, thermionic, cellulose acetate in mfr., 687.  
Vanadates, keten mfr. using, 779.  
Vanadium, catalyst, 865.  
Vanadium borate, catalyst, 866.  
Vanadium chloride, 137.  
—, catalyst in ethyl chloride mfr., 1267.  
—, cellulose ether dyed using, 2284.  
Vanadium hydroxide, catalyst in ethyl chloride mfr., 1267.  
Vanadium oxide, catalyst in acet-aldehyde mfr., 627, 781.  
—, catalyst in acetic acid mfr., 781.  
—, catalyst in ethyl chloride mfr., 1267.
- Vanadium oxychloride, catalyst in ethyl chloride mfr., 1267.  
Vanadium pentoxide, acetic anhy-dride made using, 1047.  
Vanadium phosphate, catalyst, 866.  
Vanadium salt, cellulose acetate dyed using, 749.  
Vanadium silicate, catalyst, 866.  
Vanadium sulfate, 1627.  
—, catalyst in cellulose acetate mfr., 686.  
*Vanillic aldehyde*, see *Vanillin*.  
Vanillin, methyl chloride in mfr. of, 1253.  
—, methyl sulfate for methylating, 1263.  
*Vanillinic acid*, see *Vanillic acid*.  
Variamine blue salt, printing with, 2326.
- Varnish, acetone in mfr., 1881.  
—, balloon, amyl formate in, 438.  
—, —, cellulose acetate for, 438.  
—, —, ethyl formate in, 438.  
—, benzene in mfr., 1803.  
—, benzylcellulose for, 1518, 2403.  
—, benzylcellulose, mfr., 266.  
—, —, matt finish on, 2195.  
—, cellulose acetate, 477, 984.  
—, —, analysis, 628.  
—, —, hexachlorethane in, 394.  
—, —, mfr., 375, 949.  
—, —, *b-naphthol* in, 394.  
—, —, properties, 871.  
—, —, uses, 726.  
—, cellulose dilaurate for, 1717.  
—, cellulose ester, mfr. of, 136, 290.  
—, cellulose ether, aircraft, 101.  
—, —, mfr. of, 136, 200, 290.  
—, cellulose nitrate, analysis, 628.  
—, China wood oil and cellulose ester for mfr. of, 249.  
—, China wood oil and cellulose ether for mfr. of, 249.  
—, cobalt-*n*-butyl phthalate with cellulose derivative for, 230.  
—, colored, mfr., 290.  
—, coloring, 2425.  
—, copper-*n*-butyl phthalate with cellulose derivative for, 230.  
—, dyeing, 2425.  
—, ethylcellulose, mfr., 266, 297.  
—, —, matt finish on, 2195.  
—, ingredients of, solubilities of, 2413.  
—, iron-*n*-butyl phthalate with cellulose derivative for, 230.

- Varnish, linseed oil, emulsion containing, 2457.  
—, —, lacquer containing, 2423.  
—, linseed oil and cellulose ester for mfr. of, 249.  
—, linseed oil and cellulose ether for mfr. of, 249.  
—, lithographic, transfer, multi-color, made using, 2549.  
—, metal, cellulose acetate, 2400.  
—, printing plate, 147.  
—, propylcellulose, 1337.  
—, spirit, cellulose acetate, 2400.  
—, zinc-*n*-butyl phthalate with cellulose derivative for, 230.  
—, *see also* *Lacquer, Paint*.  
Varnish remover, mfr. of, 527.  
—, mfr. of, cellulose acetate in, 435, 527, 992.  
—, —, methylene chloride in, 992.  
—, —, stearin in, 992.  
—, —, wax in, 435.  
—, thickener for, 1092.  
Varnoline, *see* *Mineral Spirit*.  
Varsol, *see* *Mineral spirit*.  
Vaseline, benzylcellulose treated with, 1652.  
—, cellulose acetate solvent, 1800.  
—, cellulose ether solvent, 1841, 2102.  
—, delustring with, 2181.  
—, emulsion containing, 2466.  
—, ethyl cellulose solvent, 19, 1300, 1800.  
—, starch ether solvent, 1483.  
—, waterproofing using, 2637.  
—, *see also* *Mineral jelly; Paraffin*.  
Vaseline oil, cellulose ether solvent, 19, 1841.  
Vat colors, cellulose acetate dyed with, 600.  
—, cellulose ether dyed using, 2228.  
Vat dye, cellulose acetate colored by, 810.  
—, cellulose acetate dyed with, 511.  
—, cellulose ester colored with, 198.  
—, cellulose ether colored with, 198.  
—, cellulose ether dyed by, 62, 121.  
—, dyeing with, 156.  
—, fixing, 198.  
—, —, cellulose ether dyed using, 2304.  
—, mfr., 763.  
Vegetable oil, cellulose acetate precipitant, 516.  
—, cellulose ether lubricant, 303.  
*Vehicle, motor, see Automobile*.  
Velvet, cellulose acetate, 2341.  
—, —, dyeing, 1001.  
—, —, mfr., 1041.  
—, dyeing, 797.  
—, mfr., 797.  
—, weaving, 2379.  
—, —, cellulose ether in, 2342.  
Velveteen, cellulose acetate, dyeing, 976.  
Velvrl, 2056.  
Veneer, cellulose acetate coated, 613.  
—, mfr. of, cellulose acetate in, 536, 970, 997.  
—, —, cellulose ether in, 1405.  
—, plywood, 2597.  
—, wood, mfr., cellulose acetate in, 970.  
Veneer panel, paper, cellulose acetate impregnated, 691.  
—, —, cellulose nitrate impregnated, 691.  
Venetian metallic tapestry, cellulose ether for simulating, 107.  
Venice turpentine, stencil sheet made using, 2498.  
Veratrine, 2446.  
Veratrol, 1872.  
—, cellulose acetate plasticizer, 398.  
—, *see also* *Catechol dimethyl ether*.  
Veratrol ether, cellulose acetate plastifier, 452.  
Veratroyl-carboxylic acid, 1732.  
Vermilion, cellulose acetate marking ink containing, 603.  
Veronal, 2029.  
Victoria blue, 1985.  
Victoria blue B, cellulose ether film containing, 2512.  
Vinasse, spinning in presence of, 1070.  
*Vinegar naphtha, see Ethyl acetate*.  
Vinol, 1993.  
*Vinous alcohol, see Ethyl alcohol*.  
Vinyl acetate, 1719, 1821, 1922, 1954, 1993, 1994, 1995, 2553.  
—, acetaldehyde made from, 626.  
—, acetic anhydride made from, 626.  
—, adhesive made using, 294.  
—, benzylcellulose combined with, 294.  
—, benzylcellulose treated with, 183.  
—, celluloid solvent, 890.

- Vinyl acetate, cellulose acetate combined with, 294.  
—, cellulose acetate plasticizer, 464, 938.  
—, cellulose acetate solvent, 890, 1785.  
—, cellulose butyrate combined with, 294.  
—, cellulose ester combined with, 208.  
—, cellulose ether combined with, 208.  
—, cellulose ether plastifier, 223.  
—, cellulose ether with as lacquer, 261.  
—, cellulose propionate combined with, 294.  
—, ethylcellulose combined with, 294.  
—, ethylcellulose treated with, 183.  
—, glass, laminated, made using, 2586, 2596.  
—, mfr., 568, 583, 855.  
—, methylcellulose combined with, 294.  
—, polymerization products of, 304.  
—, polymerized, 208.  
—, —, cellulose acetate lacquers containing, 2390.  
—, —, glass, laminated, made using, 789, 2591.  
—, —, lacquer containing, 2393.  
—, sizing of, 263.  
Vinylacetate polymer, constants of, 2055.  
Vinyl acetate resin, stencil sheet made using, 2497.  
Vinyl alcohol, 1993.  
—, benzylcellulose combined with, 294.  
—, cellulose acetate combined with, 294.  
—, cellulose butyrate combined with, 294.  
—, cellulose propionate combined with, 294.  
—, esters of, cellulose ether insolubilized by, 2422.  
—, ethylcellulose combined with, 294.  
—, methylcellulose combined with, 294.  
Vinylbenzene, 1954, 1994.  
—, see also *m-Styrene*, *Styrol*.  
Vinyl benzoate, 1922.  
Vinyl bromide, 1994.  
Vinyl bromide, benzylcellulose treated with, 183.  
—, cellulose ether plastifier, 223.  
—, ethylcellulose treated with, 183.  
Vinylbutyl ether, 1093.  
Vinyl butyrate, 1821, 1994.  
—, cellulose ether with as lacquer, 261.  
Vinyl chloracetate, 1994.  
—, benzylcellulose combined with, 294.  
—, cellulose acetate combined with, 294.  
—, cellulose acetate plasticizer, 464.  
—, cellulose butyrate combined with, 294.  
—, cellulose propionate combined with, 294.  
—, ethylcellulose combined with, 294.  
—, methylcellulose combined with, 294.  
—, sizing of, 263.  
Vinyl chloride, 1403, 1816, 1821, 1972, 1993, 1994, 1995.  
—, benzylcellulose treated with, 183.  
—, cellulose ether plastifier, 223.  
—, ethylcellulose treated with, 183.  
—, polymerization products of, 304.  
—, polymerized, film of, 131.  
—, —, film, laminated, made using, 2599.  
—, —, lacquer containing, 2393.  
—, 1,1,2-trichlorethane made using, 668.  
Vinyl compounds, 1993.  
—, glass sheets united using, 1570, 2586.  
—, polymerized, 2553.  
—, —, cigarette tips coated using, 788.  
—, —, glass, laminated, made using, 2592.  
Vinyl esters, 1567, 1877, 1994, 1995.  
—, acetaldehyde made from, 761, 762.  
—, filament, artificial, made using, 820.  
—, mfr., 576.  
—, paraldehyde made from, 761, 762.  
—, polymerized, cellulose acetate lacquers containing, 2390.  
—, —, cellulose acetate plasticizer, 436.

- Vinyl esters, polymerized, lacquer containing, 2396.  
—, sizing with, 2138.  
Vinyl ether, filament, artificial, made using, 820.  
—, sizing with, 2138.  
Vinyl ethyl ether, 1093.  
Vinyl halides, 1993.  
*Vinylideneglycoldiethyl ether*, see *Acetal*.  
Vinyl phosphate, 1994.  
—, benzylcellulose treated with, 183.  
—, ethylcellulose treated with, 183.  
Vinyl phthalate, 1994.  
—, benzylcellulose treated with, 183.  
—, cellulose ether plastifier, 223.  
—, cellulose ether treated with, 183.  
Vinyl propionate, 1821, 1994.  
—, benzylcellulose treated with, 183.  
—, cellulose ether plastifier, 223.  
—, cellulose ether with as lacquer, 261.  
—, ethylcellulose treated with, 183.  
Vinyl resin, cellulose acetate lacquers containing, 2390.  
—, cigarette tip coated using, 788.  
—, cigarette tip containing, 2432.  
Vinyl trichloracetate, 1995.  
*Vinyl trichloride*, see *Trichlor-ethane*.  
Violet, blue, cellulose acetate dyed, 610, 647, 808.  
—, —, cellulose ether dyed, 2264, 2266, 2272, 2279, 2293.  
—, bluish, cellulose acetate dyed, 879.  
—, brownish, cellulose ether dyed, 156.  
—, cellulose acetate dyed, 528, 592, 610, 612, 643, 647, 672, 673, 716, 718, 845, 846, 937, 2247, 2256.  
—, cellulose ester dyed, 125.  
—, cellulose ether dyed, 67, 111, 112, 125, 159, 242, 2222, 2251, 2254, 2260, 2265, 2268, 2272, 2273, 2274, 2275, 2279, 2280, 2285, 2633, 2634.  
—, film dyed, 2519.  
—, lacquer, cellulose ether mfr., 2425.  
—, nitrobenzylcellulose dyed, 1597.  
—, red, 675.  
—, —, cellulose acetate dyed, 494, 937.  
Violet, red, cellulose ether dyed, 298, 2249, 2254, 2263, 2264, 2272, 2276, 2280.  
—, —, lacquer, cellulose ether mfr., 2425.  
—, reddish, cellulose acetate dyed, 606, 643, 671, 879.  
—, —, cellulose ether dyed, 113, 298, 2243, 2257, 2260.  
Violet II, cellulose acetate dyed using, 653.  
Violet indigosol AZB, 1027.  
Violet red, cellulose acetate dyed, 1085.  
Violet 2RN, cellulose acetate dyed using, 723.  
—, cotton dyed using, 723.  
*Viscometer*, see *Viscosimeter*.  
Viscose, 323, 357, 358, 1113, 2002.  
—, acetating, 340, 848, 1058.  
—, benzylcellulose made using, 206.  
—, calcium thiocyanate treated, 2315.  
—, cellulose esters made from, 942.  
—, cellulose ethers coated with, 2337.  
—, cotton pulp for mfr. of, 989.  
—, dry cleaning, 737.  
—, dyeing, 730.  
—, etherifying, 1414.  
—, ethylating, 46.  
—, ethylcellulose made using, 206.  
—, fabric, differential, containing, 2348.  
—, fabric coated with, 2483.  
—, filaments, delustring, 849.  
—, film from, 368.  
—, film of, cellulose acetate for coating, 424.  
—, glycerol-trithiocarbonate treated, 293.  
—, glycol-trithiocarbonate treated, 293.  
—, heat, resistance to, 850.  
—, horse hair, artificial, mfr., 353.  
—, hydrochloric acid treated, 2315.  
—, hydrolyzing, 848.  
—, isohygrametric curves, 1108.  
—, laundering, 737.  
—, mfr. of, 27.  
—, mercerizing textiles containing, 828.  
—, metal foil coated with, 424.  
—, methylated, 27.  
—, methylation of, 77, 127, 1307, 1310.

- Viscose, methylcellulose from, 77.  
—, mixed fabric containing, dyeing, 689, 690.  
—, nitric acid treated 2315.  
—, phosphoric acid treated, 2315.  
—, Picrocarmin K for identifying, 731.  
—, printing with, 2345.  
—, propionating, 1058.  
—, Roentgen-spectrograph of, 71.  
—, sheets, cellulose acetate coated, 430.  
—, —, waterproofing, 654.  
—, sponge, artificial, made using, 2536.  
—, stencil sheet made using, 2497.  
—, strengthening, 2130, 2134.  
—, sulfuric acid treated, 2315.  
—, sunlight, resistance to, 850.  
—, swelling of, 847.  
—, wood pulp for mfr. of, 989.  
—, X-ray analysis of, 1179, 1371.  
—, X-ray diagrams of, 657.  
—, zinc chloride treated, 2315.  
—, *see also Cellulose xanthate*.  
Viscose silk, dyeing black, 179.  
Viscosimeter, Ostwald, 2654.  
Viscosity, alkylcellulose, reducing, 1352.  
—, cellulose acetate, reducing, 2397.  
—, cellulose ester, reducing, 201.  
—, cellulose ether, reducing, 201.  
—, determination of, 2651.  
—, ethylcellulose, reducing, 1352.  
—, methylcellulose, reducing, 1352.  
—, reducing, 1959.  
"Vita" glass, 858.  
Vitalite, 2568.  
Vitran, *see Tetrachlorethane*.  
Vitreo-Colloid, 2568.  
Vitrial, oil of, fuming, *see Oleum*.  
Vitrol, *see Tetrachlorethane*.  
V. M. P. naphtha, *see Mineral spirit*.  
Voile, cellulose acetate, dyeing, 1001.  
—, physical properties of, 657.  
Vulcanite, denture of, 107.  
—, substitute, 570.  
Vulcanization accelerator, ethyl bromide in mfr., 1275.  
Vulcanized fiber, cellulose acetate coated, 491.  
—, hygroscopicity of, decreasing, 2158.  
Wadding, handkerchiefs made with cellulose acetate and, 695.  
—, tablecloth made with cellulose acetate and, 695.  
—, towel made with cellulose acetate and, 695.  
Wall covering, benzylcellulose for, 171, 215, 1585, 2598.  
—, cellulose acetate for, 613.  
—, cellulose acetate for mfr. of, 2645.  
—, cellulose ether for mfr. of, 2645.  
—, mfr., 2597.  
Wall paper, cellulose acetate coated, 592.  
—, *see also Paper, wall*.  
Walnut oil, 1669.  
Warp prints, cellulose acetate fabric, 630.  
Washcloth, cellulose ester for waterproofing, 209.  
—, cellulose ether for waterproofing, 209.  
—, waterproofing, 209.  
Washing, cellulose acetate, 678.  
Waste, cellulose acetate recovery, 594.  
Water, benzylcellulose solvent, 278, 1345.  
—, butylbenzylcellulose solvent, 278, 1345.  
—, butylcellulose solvent, 278, 1345.  
—, cellulose acetate, solubility, 1345.  
—, cellulose acetate hydrated with, 380, 925.  
—, cellulose acetate hydrolized by, 779.  
—, cellulose acetate stabilizer, 734.  
—, cellulose acetate swelled by, 553.  
—, cellulose acetate viscosity depressed by, 924.  
—, cellulose acetobutyrate, solubility, 1345.  
—, cellulose acetobutyrolaurate, solubility, 1345.  
—, cellulose acetolaurate, solubility, 1345.  
—, cellulose acetopropionate, solubility, 1345.  
—, cellulose butyrate, solubility, 1345.  
—, cellulose butyrolaurate, solubility, 1345.  
—, cellulose capronate, solubility, 1345.

- Water, cellulose ester delustred by, 221.
- , cellulose ester relustred by, 221.
- , cellulose ether delustred by, 221.
- , cellulose ether dyeing using, 2237.
- , cellulose ether relustred by, 221.
- , cellulose ether viscosity reduced by, 1364.
- , cellulose formate, solubility, 1345.
- , cellulose laurate, solubility, 1345.
- , cellulose naphthenate, solubility, 1345.
- , cellulose naphthenate-laurate, solubility, 1345.
- , cellulose naphthenate-oleate-laurate, solubility, 1345.
- , cellulose pelargonate, solubility, 1345.
- , cellulose propionate, solubility, 1345.
- , cellulose stearate, solubility, 1345.
- , cellulose valerate, solubility, 1345.
- , cold, ethyl cellulose solvent, 20, 21.
- , dimethylhydrocellulose solvent, 76.
- , dispersive action of, on cellulose ether, 204.
- , ethylbenzylcellulose solvent, 278, 1345.
- , ethylbutylcellulose solvent, 278, 1345.
- , ethylcellulose solvent, 18, 278, 1345.
- , hot, ethylcellulose solvent, 20, 1437.
- , methylcellulose solvent, 278, 1307, 1345.
- , propylbenzylcellulose solvent, 278, 1345.
- , propylcellulose solvent, 278, 1345.
- Water glass, synthesis, pearl, using, 2611.
- , *see also Sodium silicate.*
- Waterproofing, 2157.
- , acetone in mfr., 1881.
- Wax, alcohol, solid, made using, 2480.
- , carnauba, amines solvent for, 2013.
- , cellophane coated with, 268.
- Wax, cellulose acetate plastic containing, 87.
- , cellulose formate plastic containing, 87.
- , cellulose nitrate plastic containing, 87.
- , delustring with, 2181, 2182.
- , determination of, 2648.
- , film, photographic, containing, 912.
- , liquid, stencil sheet made using, 664.
- , Japan, amines solvent for, 2013.
- , pearl, artificial, made using, 2612.
- , powder, black, containing, 2470.
- , sealing, mfr., 2540.
- , stencil sheet made using, 2497.
- , transfer, cellulose ether, containing, 2547, 2549.
- , transfer made using, 2549.
- , white, film, containing, 2502.
- Waxed cloth, see Cloth, waxed.*
- Waxes, cellulose acetate delustred using, 607.
- , cellulose acetate solvent, 1819.
- , cellulose ether plastic with, 193.
- , cyclohexanone solvent of, 1985.
- , ethylcellulose for emulsifying, 2136.
- , fabric treated with, 2344.
- , filament, hollow, spun, using, 2367.
- , methylcellulose for emulsifying, 2136.
- , stencil sheet made using, 2488.
- Weaving, 2358.
- , cellulose ether for mfr. of, 2377.
- Webs, reinforced, benzylcellulose for, 1570.
- Weighting, aluminum thiocyanate for, 226.
- , ammonia for, 226.
- , chromium thiocyanate for, 226.
- , disodium phosphate for, 226.
- , iron (ic) chloride for, 226.
- , iron (ic) thiocyanate for, 226.
- , sodium carbonate for, 226.
- , tannin for, 226.
- , tin (ic) chloride for, 226.
- , tin phosphate for, 105.
- , tin silicate for, 105.
- , tin (ic) thiocyanate for, 226.
- , zinc chloride for, 226.
- Welsbach mantles, see Mantles, incandescent.*
- Westron, see Tetrachlorethane.*

- Westrosol*, see *Tri-chlorethylene*.  
 Wetting, 2206.  
 Wetting agent, anthracene-furfural condensate as, 181.  
 —, anthracene-furfuramide condensate as, 181.  
 —, anthracene-methylfurfural condensate as, 181.  
 —, carbazole-furfural condensate as, 181.  
 —, carbazole-furfuramide condensate as, 181.  
 —, carbazole-methylfurfural condensate as, 181.  
 —, naphthalene-furfural condensate as, 181.  
 —, naphthalene-furfuramide condensate as, 181.  
 —, naphthalene-methylfurfural condensate as, 181.  
 Whale oil, film containing, 886.  
 —, film made using, 2506.  
 Whale oil acid chloride, 1714.  
 Wheat-straw, alkylating, 282.  
 —, benzylating, 282, 1541.  
 Wheat-straw ether, mfr. of, 282.  
 —, solubility of, 282.  
 Wheel, cellulose ether in mfr. of, 136, 2598.  
*White birch*, see *Birch*.  
*White dextrin*, see *Dextrin*, white.  
 White lead, lacquer and cellulose ether with, 153.  
 —, plaster and cellulose ether with, 153.  
 —, putties and cellulose ether with, 153.  
 White resist effects, producing, 2316.  
 White spirit-alcohol, dilution ratios, 1787.  
 Wi-Alc, 1833.  
 Wigger's anesthetic ether, 1815.  
 Windowglass, substitute, cellulose ether for, mfr., 2636.  
 Window glazing, cellulose acetate for, 858.  
 Windshield, automobile, mfr., 1078.  
 —, raindrops on, preventing formation, 2396.  
 —, steaming on, preventing, 2396.  
 Wing, airplane, visibility of, reducing, 424.  
*Wing dope*, see *Airplane*, lacquer.  
 Wintergreen oil, 403, 1962, 2044, 2045.  
 —, see also *Methyl salicylate*.  
 Wire, cellulose acetate coated, 448, 453, 939, 974.  
 —, —, mfr., 1030.  
 —, cellulose acetate covered, 1005.  
 —, cellulose acetate insulated, 340.  
 —, coating, 1030, 2367.  
 —, —, cellulose acetate for, 542, 555, 556, 862, 885, 2438, 2555.  
 —, electric, ethyltoluenesulfonamide in insulating, 855.  
 —, —, insulating, cellulose acetate for, 854, 855.  
 —, —, toluenesulfonanilide in insulating, 855.  
 —, —, tolyl phosphate in insulating, 855.  
 —, impregnation, benzylcellulose for, 1565.  
 —, insulated, coating, cellulose acetate for, 1098.  
 —, —, cellulose acetate for, 341, 373, 928, 2439.  
 —, —, cellulose ether for, 2442.  
 —, —, cellulose benzoate for, 1734.  
 —, —, cellulose oleate for, 155.  
 —, —, ethyl cellulose palmitate for, 155, 1670.  
 —, —, ethyl cellulose stearate for, 155, 1670.  
 —, —, rubber for, 341.  
 —, lacquer for, 343.  
 —, metallizing, 2363.  
 —, rubber insulated, 340.  
 —, zinc coated, cellulose acetate for, 2553.  
 Wire gauze, cellulose acetate covered, 678.  
 Wood, acetic acid action on, 1043.  
 —, acetic acid from, 919.  
 —, acetylating, 836, 877, 912, 980.  
 —, adhesive for, 2598.  
 —, adhesive, cellulose acetate for, 1043.  
 —, aircraft, fireproofing, 441.  
 —, artificial, cellulose acetate and sawdust for, 422.  
 —, —, mfr. of, cellulose acetate for, 568.  
 —, beech, acetylating, 664, 724.  
 —, —, methylated, see *Methyl lignin*.  
 —, —, methylation, 166, 252.  
 —, benzylcellulose from, 233, 290.  
 —, cellulose acetate mfr., from, 896.  
 —, cellulose ether from, 196.

- Wood, cellulose ether plastic containing, 150.  
—, cementing, 238.  
—, —, ethyl cellulose for, 238.  
—, coating, 211.  
—, —, antimony trichloride in, 491.  
—, —, cellulose acetate for, 358, 435, 473, 489, 491, 580, 693, 699.  
—, —, cellulose acetate lacquer for, 1080.  
—, —, cellulose monoacetate-distearate for, 790.  
—, —, cellulose dilaurate for, 790.  
—, —, cellulose ester for, 260.  
—, —, cellulose ether for, 260.  
—, —, cresylic acid for, 489.  
—, —, ethyl cellulose for, 211.  
—, —, gutta-percha for, 790.  
—, —, resin for, 790.  
—, —, rubber for, 211, 790.  
—, cork separated from, 529.  
—, designs on, cellulose ether for, 191.  
—, diffraction patterns of, 1121.  
—, distillation, 1131.  
—, dyeing, 196.  
—, etherification of, 12, 290.  
—, ethylbenzylcellulose from, 290.  
—, ethylcellulose from, 290.  
—, ethylcellulose impregnated, 235, 236.  
—, filler, cellulose acetate for, 487.  
—, filling, cellulose ester for, 260.  
—, —, cellulose ether for, 260.  
—, flexible, mfr., 1080.  
—, formylated, 904.  
—, graining, cellulose ether for, 191.  
—, hygroscopicity of, decreasing, 2158.  
—, impregnating, "carbolineum" for, 1936.  
—, —, cellulose acetopropionate for, 1036.  
—, —, tar oils for, 1036.  
—, insulating, cellulose acetate for, 436.  
—, —, vulcanized fiber for, 436.  
—, lacquer for, 2420.  
—, —, cellulose ester as, 188.  
—, —, cellulose ether as, 188.  
—, lactic acid from, 919.  
—, lignin content of, 1174.  
—, metallization of, 2361.  
—, methylated, analyses of, 130.  
—, —, methoxyl content of, 130.  
Wood, methylation, 166, 252, 276.  
—, methyl cellulose from, 233.  
—, nitration of, *see Nitrolignin*.  
—, nitrobenzylcellulose from, 233.  
—, pearly luster, mfr., 820.  
—, pine, acetylating, 647.  
—, —, acetyl bromide as solvent of, 591.  
—, polish, cellulose acetate for, 487.  
—, polishing, cellulose acetate for, 693.  
—, preserving, 154.  
—, —, cellulose acetate for, 358.  
—, —, cellulose laurate for, 154.  
—, —, laurylated starch for, 154.  
—, printing on, 2329.  
—, protecting, cellulose acetate for, 436.  
—, —, vulcanized fiber for, 436.  
—, saccharifying, 1039.  
—, spruce, lignin, acetylation, 792.  
—, strengthening, cellulose acetate for, 436.  
—, —, vulcanized fiber for, 436.  
—, sulfuric acid derivative of, mfr., 728.  
—, treatment of, benzoyl chloride for, 1035.  
—, —, dimethylaniline for, 1035.  
—, —, sulfur trioxide for, 728.  
—, veneer, mfr. of, cellulose acetate, 997.  
—, waterproofing, cellulose tri-laurate for, 200.  
—, *see also Cellulose; Cotton; Lignin; Paper; Wood Pulp*.  
Wood acetate, 912.  
Wood alcohol, *see Methyl alcohol*.  
Wood benzoate, 912.  
Wood butyrate, 912.  
Wood cellulose, *see Cellulose, wood; Lignin; Lignocellulose; Wood pulp*.  
"Wood ether," mfr. of, 233.  
—, *see also Alkyl lignin*.  
Wood fiber, film, photographic, containing, 912.  
—, *see also Lignin*.  
Wood filler, cellulose trilaurate as, 2398.  
—, starch laurate as, 2398.  
Wood flour, coating of benzylcellulose with, 1585.  
—, emulsion containing, 2456, 2457.  
—, flooring made using, 1092.



- Wood flour, record, phonograph, made using, 859.
- Wood meal, cellulose acetate and as coating composition, 395.
- , cellulose united with, 538.
- , rubber united with, 538.
- Wood naphtha, see Methyl alcohol.*
- Wood oil, 1883, 2045.
- , cellulose ether solvent, 93, 296.
- , coating containing, 201.
- , composition, 296.
- , *see also Tung oil.*
- Wood powder, 1955.
- Wood pulp, 1166.
- , acetylating, 542, 545, 565, 584, 821, 1060.
- , alkylating, 2641.
- ,  $\alpha$ -cellulose, determination of, 2648.
- , cellulose acetate mfr. from, 565.
- , cotton prepared with, 989.
- , etherification of, 12.
- , fat in, determination of, 2648.
- , mfr., 1167.
- , methylating, 1306.
- , microscopy, 1166.
- , pretreating, 821.
- , resin in, determination of, 2648.
- , waterproofing, 209.
- , —, cellulose ester for, 209.
- , —, cellulose ether for, 209.
- , wax in, determination of, 2648.
- , *see also Cellulose, wood; Wood.*
- Wood spirit, see Methyl alcohol.*
- Wood spirit oil, see Methylethyl ketone; Wood oil.*
- Wood tar, acetic acid extracted with, 835.
- , acetic acid recovered using, 581.
- Wool, acetylated, dyeing, 1019.
- , artificial, mfr., 723, 2372.
- , celluloid impregnated, 331.
- , cellulose acetate impregnated, 331.
- , cellulose acetate removed from, 1086.
- , cellulose acetate with, printing, on, 1000.
- , cellulose acetate nitrate filaments with, 735.
- , cleaning, 185.
- , cross-dyeing, 691, 2313.
- , dyeing, 934, 1009, 2308.
- , —, (black), 179.
- , —, cellulose acetate for, 695.
- Wool, ethylcellulose impregnated, 235, 236.
- , fabric of cellulose acetate and, dyeing, 1009, 2379.
- , —, fabric, mixed, containing, 689, 690.
- , filaments from, mfr., 1000.
- , fraying, preventing, 2359.
- , gut, substitute, made of cellulose acetate impregnated, 638.
- , imitation, cellulose acetate for, 854.
- , instrument strings made of cellulose acetate impregnated, 638.
- , mfr. of, cellulose acetate in, 467.
- , —, glycerol in, 467.
- , —, hair in, 467.
- , —, horn in, 467.
- , —, leather refuse in, 467.
- , —, substitute for, 467.
- , —, triphenyl phosphate in, 467.
- , modifying dyeing properties of, naphthyl isocyanate for, 831.
- , —, nitrophenyl isocyanate for, 831.
- , —, phenyl isocyanate for, 831.
- , —, pyridine for, 831.
- , —, zinc chloride for, 831.
- , printing on, 2344.
- , racket strings made of cellulose acetate impregnated, 638.
- , ravelling, preventing, 2359.
- , ultra-violet radiation through, 657.
- Wool fat, 2053.
- , alkyl cellulose with for treating leather, 193.
- , delustring with, 2181.
- , dimethylcellulose with for treating leather, 193.
- , emulsion containing, 2466.
- Wool green, 2320.
- Wool oil, cellulose acetate combined with, 430.
- Wool suint, flax purified by, 1179.
- Wool yarn, shrinkage, reducing, 2373.
- Wormseed oil, 2044.
- Wrapper, transparent, mfr., 1082.
- Wrinkles, cellulose acetate, removing, 913.
- Wrought iron, see Iron, wrought.*
- Xanthenes, cellulose ether dyed using, 2287.
- Xanthoacetic acid, mfr., 815.

- Xanthocyanin, 283.  
—, film, colored, made using, 2531.  
Xanthogenic acid, methyl ether of, 127.  
Xanthorhamnetin, 317.  
Xanthorhamnetin acetate, 317.  
*Xanthorrhoea*, see *Acaroid*.  
Xanthorrhoea resin, lacquer containing, 2395.  
Xeroderma, anthracene-sulfonic acid in treatment of, 2450.  
—, naphthol-sulfonic acid in treatment of, 2450.  
—, naphthylamine-sulfonic acid in treatment of, 2450.  
Xetal, 2568.  
X-ray, action on cellulose acetate, 618.  
—, cellulose acetate, 875.  
X-ray screen, calcium tungstate in mfr., 597.  
—, cellulose acetate in mfr., 597.  
*Xenylamine*, see *Amino-diphenyl(p)*.  
Xylan, 78, 1175, 1456.  
—, methyl ethers of, 78.  
Xylan diacetate, 1181.  
Xylene, 92, 583, 1674, 1850, 1852, 1944.  
—, acetic acid solvent, 716, 905, 928.  
—, aluminum naphthenate solvent of, 107.  
—, aluminum resinate solvent of, 107.  
—, ammonium naphthenate solvent of, 107.  
—, ammonium resin solvent of, 107.  
—, benzylcellulose solvent, 248, 1540, 1555.  
—, bromo, cellulose ether inflammability reduced by, 182.  
—, butyric acid extracted by, 716.  
—, calcium naphthenate solvent of, 107.  
—, calcium resinate solvent of, 107.  
—, cellulose acetate delustred by, 776, 1030.  
—, cellulose acetate plasticizer, 460.  
—, cellulose acetate precipitant, 811.  
—, cellulose acetate solvent, 1819.  
—, cellulose acetate spinning solution containing, 775.  
Xylene, cellulose acetate swelling agent, 912.  
—, cellulose alkalized in presence of, 1430.  
—, cellulose dilaurate dissolved by, 201.  
—, cellulose ester coagulated by, 133, 2097.  
—, cellulose ester lustred by, 221, 2097.  
—, cellulose esterified in presence of, 722.  
—, cellulose ether non-solvent, 186.  
—, cellulose ether precipitated by, 169, 2085.  
—, cellulose ether softener, 303.  
—, cellulose ether solvent, 51, 1805, 1841, 2102, 2227.  
—, cellulose ether spinning bath containing, 2083.  
—, cellulose ether swelling agent, 104.  
—, cellulose formate dyed using, 607.  
—, cellulose monoaceto-distearate dissolved by, 201.  
—, cellulose nitrate precipitant, 811.  
—, cellulose propionate dyed using, 607.  
—, cellulose solvent, 1330.  
—, delustring with, 2186, 2189.  
—, ethylcellulose, crystalline, solvent, 1336.  
—, ethylcellulose solvent, 19, 1332.  
—, film made using, 2516.  
—, flash point, 2061.  
—, formic acid concentrated using, 830.  
—, guttapercha dissolved by, 201.  
—, lacquer containing, 1572, 2399, 2413, 2424, 2428.  
—, magnesium naphthenate solvent of, 107.  
—, magnesium resinate solvent of, 107.  
—, metal coated using, 790.  
—, paint containing, 2544.  
—, pictures, transfer, made using, 2551.  
—, plastic made containing, 2566.  
—, potassium naphthenate solvent of, 107.  
—, potassium resinate solvent of, 107.  
—, printing, intaglio, made using, 2551.

- Xylene, resinous products from, 1572.  
—, rubber dissolved by, 201.  
—, shells, shot gun, water-proofed using, 2414.  
—, sodium naphthenate solvent of, 107.  
—, sodium resinate solvent of, 107.  
—, softener, 2216.  
—, solubilizing agent, 2219.  
—, starch ether solvent, 1483.  
—, varnish containing, 2637.  
—, wetting agent, 2207.  
—, wood coated using, 790.  
—, zinc naphthenate solvent of, 107.  
—, zinc resinate solvent of, 107.  
*m*-Xylene, 1987.  
—, amines solvent for, 2013.  
—, cellulose acetate precipitated by, 1043.  
—, cellulose ether dyed using, 2296.  
—, ethylcellulose delustred by, 133.  
Xylene-alcohol, dilution ratios, 1787.  
Xylenealkylsulfonamide, 1923, 2027.  
—, benzylcellulose plastified by, 102, 1578.  
—, cellulose acetate plastifier, 523.  
—, ethylcellulose plastified by, 102.  
—, methylcellulose plastified by, 102.  
Xyleneazo-*m*-aminobenzoyl-J-acid, 1744.  
Xylene-dialkylsulfonamide, methylsulfate in mfr. of, 1264.  
Xylene-diethylsulfonamide, 2029, 2039.  
—, benzylcellulose plastifier, 60.  
—, cellulose acetate plastifier, 632.  
—, cellulose ether plastifier, 60.  
—, cellulose nitrate plastifier, 60.  
—, chlorethylcellulose plasticizer, 1595.  
—, ethylbenzylcellulose plastifier, 60.  
—, ethylcellulose plastifier, 60.  
—, methoxybenzylcellulose plasticizer, 1595.  
—, methylbenzylcellulose plasticizer, 1595.  
—, methylcellulose plastifier, 60.  
—, nitrobenzylcellulose plasticizer, 1595.  
Xylenedimethylsulfonamide, 2038.  
—, benzylcellulose plastifier, 60.  
—, cellulose acetate plastifier, 521.  
Xylenedimethylsulfonamide, cellulose ether plastifier, 60.  
—, cellulose nitrate plastifier, 60.  
—, chlorethylcellulose plasticizer, 1595.  
—, ethylbenzylcellulose plastifier, 60.  
—, ethylcellulose plastifier, 60.  
—, methoxybenzylcellulose plasticizer, 1595.  
—, methylbenzylcellulose plasticizer, 1595.  
—, methylcellulose plastifier, 60.  
—, nitrobenzylcellulose plasticizer, 1595.  
Xyleneethylsulfonamide, cellulose ether softener, 2398.  
Xylenemonoethylsulfonamide, 2038, 2040.  
—, cellulose acetate plastifier, 521.  
—, cellulose acetate solvent, 453.  
—, chlorethylcellulose plasticizer, 1595.  
—, methoxybenzylcellulose plasticizer, 1595.  
—, methylbenzylcellulose plasticizer, 1595.  
—, nitrobenzylcellulose plasticizer, 1595.  
Xylene Fast Violet 4 RN, cellulose acetate dyed using, 690.  
—, viscose dyed using, 690.  
—, wool dyed using, 690.  
Xylenemethylethylsulfonamide, 2029, 2036, 2039.  
—, cellulose acetate plastifier, 634.  
—, chlorethylcellulose plasticizer, 1595.  
—, methoxybenzylcellulose plasticizer, 1595.  
—, methylbenzylcellulose plasticizer, 1595.  
—, nitrobenzylcellulose plasticizer, 1595.  
Xylene methyl sulfonamide, benzylcellulose plastifier, 60.  
—, cellulose acetate softener, 2398.  
—, cellulose ether plastifier, 60.  
—, cellulose nitrate plastifier, 60.  
—, ethylbenzylcellulose plastifier, 60.  
—, ethylcellulose plastifier, 60.  
—, methylcellulose plastifier, 60.  
Xylenomonomethylsulfonamide, 1899, 2038, 2040, 2041.  
—, cellulose acetate plastifier, 521, 592, 2343.  
—, cellulose acetate solvent, 453.

- Xylenemonomethylsulfonamide, cellulose acetate melted with, 1090.  
—, chlorethylcellulose plasticizer, 1595.  
—, methoxybenzylcellulose plasticizer, 1595.  
—, methylbenzylcellulose plasticizer, 1595.  
—, nitrobenzylcellulose plasticizer, 1595.  
—, phonograph record made with, 110.  
—, relustring with, 2201.  
—, resin of furfural and, 259.  
—, rosin melted with, 1090.  
Xylenemonomethylsulfonamide resin, cellulose ether and, 259.  
Xylenesulfochloride, 1685.  
—, monomethylxylenesulfonamide made using, 493.  
Xylenesulfonamide, 2024, 2484.  
—, acetaldehyde condensate of, 173.  
—, aldehyde condensate of, 173.  
—, fabric coated using, 2484.  
—, formaldehyde condensate of, 173.  
—, paraformaldehyde condensate of, 173.  
—, resin, artificial, from, 1577.  
—, resin of furfural and, 259.  
*p*-Xylenesulfonamide, delustring with, 2188.  
Xylenesulfonamide-aldehyde resin, plastic containing, 2570.  
Xylenesulfonamide-formaldehyde resin, 2053, 2054, 2375.  
—, cellulose ester combined with, 270.  
—, cellulose ether combined with, 270.  
Xylenesulfonamide resin, cellulose ether and, 259.  
Xylenesulfonate, 2033.  
Xylenesulfonmethylamide, 1038.  
Xylenethyl sulfonamide, benzylcellulose plastifier, 60.  
—, cellulose ether plastifier, 60.  
—, cellulose nitrate plastifier, 60.  
—, ethylbenzylcellulose plastifier, 60.  
—, ethylcellulose plastifier, 60.  
—, methylcellulose plastifier, 60.  
Xylenol acetate, cellulose acetate made using, 771.  
Xylenol-formaldehyde, 1882.  
Xylenols, delustring with, 2185.  
—, cellulose ether solvent, 106.  
Xylenols, wetting out agent, 1236.  
1,3,5-Xylenol, amines solvent for, 2013.  
Xylenoxyphenoxyethanols, 1977.  
*m*-Xylenyl acetate, 1746.  
—, cellulose combined with, 228.  
*p*-Xylenyl acetate, 1746.  
—, cellulose combined with, 228.  
*m*-Xylenylethyl ether, plastic made using, 2577.  
*m*-Xylenylmethyl ether, plastic made using, 2577.  
*Xylic acid*, see *Dimethyl benzoic acid*.  
Xylidine, 2016.  
—, celluloid solvent, 890.  
—, cellulose acetate solvent, 890, 1785.  
—, cellulose ether solvent, 106.  
—, diazotizing, cellulose ether dyed using, 2300.  
—, flash point, 2061.  
—, lacquer containing, 741, 2418.  
*m*-Xylidine, cellulose ester dyed black using, 210.  
—, cellulose ether dyed black using, 210.  
—, diazocompound of, cellulose ether dyed using, 2263.  
*m*-4-Xylidine, 1744.  
*p*-Xylidine, cellulose acetate dyed using, 719, 751, 2272.  
*m*-Xylidine-*o*-sulfonic acid, cellulose ether dyed using, 2262.  
Xylitone, 1887.  
*iso*-Xylitone, 1887.  
*b*-Xylochloalose, 1501.  
Xyloidine, 1.  
—, carbonbisulfide solvent for, 1798.  
Xylol, lacquer containing, 2423.  
—, see also *Xylene*.  
*Xylonite*, see *Celluloid*.  
Xylonitrate, cellulose ester coagulated by, 133.  
—, cellulose ether coagulated, 133.  
Xylonitriles, cellulose ether precipitant, 170, 2086.  
Xylonitrite, cellulose ether coagulant, 2097.  
Xylose, 277, 1102.  
—, amines solvent for, 2013.  
*d*-Xylose, 1501.  
Xylosides, 1102.  
*Xylul*, see *Dixylul*, *Monoxylul*, *Trixylul*.  
Xylulacetal, 1874.

- Xylylcellulose, mfr., 1604.  
 —, plastic containing, 101.  
 Xylyl chloride, 192, 1827.  
 —, cellulose ester non-solvent, 1806.  
 —, cellulose ether plastic with, 64.  
 —, dull finish lacquer containing, 2418.  
 —, matt finish lacquer containing, 2418.  
 —, plastic containing, 2568.  
 —, resinous products from, 1572.  
*p*-Xylyl chloride, 1612.  
 Xylyldimethylsulfonamide, cellulose acetate plastifier, 523.  
 Xylylene, 1827.  
*p*-Xylylenechloride, cellulose ester non-solvent, 1806.  
 —, cellulose ether plastic, 64.  
*p*-Xylylene dichloride, 1827.  
*m*-Xylylethane, benzylcellulose plastic containing, 87.  
 —, ethylcellulose plastic containing, 87.  
*m*-Xylylethane ether, 1583.  
*m*-Xylylethylsulfone, cellulose acetate plasticizer, 464.  
*Xylyl hexahydrobenzoate*, see *Xylyl naphthenate*.  
*p*-Xylylidene chloride, plastic containing, 2568.  
*p*-Xylylidene dichloride, resinous products from, 1572.  
 4-*m*-Xylylimide, cellulose ester dye, 305.  
 —, cellulose ether dye, 305.  
 —, cellulose ether dyed using, 2283.  
 Xylylmethylsulfonamide, cellulose acetate plastifier, 747.  
 —, lacquer containing, 2395.  
 Xylylmonoethylsulfonamide, cellulose acetate plastifier, 523.  
 Xylylmonomethylsulfonamide, cellulose acetate plastifier, 523.  
 —, cellulose ether delustred with, 185.  
 —, delustring with, 185.  
 Xylyl naphthenate, 1966.  
 Xylylthiourethane, 125.
- Yarn, acetylating, 365.  
 —, —, superficially, 373.  
 —, benzylcellulose, loading, 1590.  
 —, cellulose acetate 861.  
 —, —, lubricating, 1088.  
 —, —, printing on, 861.  
 —, —, saponifying, 850.
- Yarn, cellulose ester, conditioning, 303.  
 —, cellulose ether, conditioning, 303.  
 —, —, delustring, 2194.  
 —, cotton, cellulose acetate impregnated, 706.  
 —, crepe, high-twist, mfr., 1100.  
 —, desizing, 933.  
 —, flattened, cellulose acetate mfr., 962.  
 —, etherifying, 1389.  
 —, ethylcellulose loading, 1590.  
 —, identifying, 1083.  
 —, immune, 1684.  
 —, laddering, preventing, 2144, 2157.  
 —, lubricating, 1088.  
 —, mfr. of ethylcellulose in, 94.  
 —, matt effect on, 2639.  
 —, Seraceta, 922.  
 —, sizing, 933.  
 —, slipping, preventing, 2144, 2157.  
 —, splitting, preventing, 2144, 2157.  
 —, spun, cellulose acetate for, 954.  
 —, —, mfr. of, 2372.  
 —, wool-like, cellulose esters for, 573.
- Yeast, cellulose acetate plastic with, 565.  
 —, glyceryl acetate plastic with, 565.  
 —, glyceryl butyrate plastic with, 565.  
 —, glyceryl camphanate plastic with, 565.  
 —, glycerylester plastic with, 565.  
 —, glyceryl formate plastic with, 565.  
 —, glyceryl phthalate plastic with, 565.  
 —, hardening, 475.  
 —, plastic containing, 475.  
 —, starch acetate plastic with, 565.
- Yellow, 675.  
 —, cellulose acetate dyed, 528, 551, 597, 608, 643, 661, 662, 673, 674, 683, 693, 751, 776, 792, 798, 808, 883, 925, 928, 937, 982, 1009, 1086, 1087, 2247, 2248, 2255, 2641.  
 —, cellulose ester dyed, 148, 157, 195, 217, 219, 243, 305.  
 —, cellulose ether dyed, 67, 111, 114, 122, 141, 142, 148, 156, 157, 159, 179, 180, 195, 217, 219, 243, 275, 305, 2209, 2221, 2228, 2251, 2252,

- 2253, 2257, 2258, 2260, 2261, 2262, 2263, 2265, 2266, 2267, 2268, 2269, 2270, 2272, 2275, 2276, 2277, 2278, 2280, 2281, 2284, 2286, 2287, 2288, 2290, 2293, 2294, 2298.
- Yellow, film dyed, 2519.
- , fluorescent, cellulose acetate dyed, 672.
- , —, cellulose ether dyed, 2283.
- , golden, 675.
- , —, cellulose acetate dyed, 265, 546, 547, 612, 632.
- , —, cellulose ester dyed, 219, 243.
- , —, cellulose ether dyed, 113, 138, 142, 219, 243, 258, 265, 276, 2238, 2246, 2254, 2258, 2260, 2262, 2265, 2267, 2268, 2269, 2273, 2276, 2278, 2285, 2286, 2289, 2294, 2295.
- , —, ethylcellulose dyed, 265.
- , green, cellulose ether dyed, 2228.
- , green fluorescing, cellulose ether dyed, 2283.
- , greenish, cellulose dyed, 546.
- , —, cellulose acetate dyed, 502, 606, 632, 722, 1010.
- , —, cellulose ester dyed, 195, 196, 243, 280, 305.
- , —, cellulose ether dyed, 138, 148, 195, 196, 243, 280, 298, 305, 2249, 2260, 2262, 2263, 2265, 2266, 2272, 2273, 2283, 2285, 2291, 2293, 2294.
- , lemon, cellulose acetate dyed, 606.
- , light, cellulose acetate dyed, 673.
- , orange, cellulose dyed, 546.
- , —, cellulose acetate dyed, 606.
- , reddish, cellulose acetate dyed, 601, 611, 673, 712.
- , —, cellulose ether dyed, 2253, 2281, 2294.
- , straw, cellulose ester dyed, 157.
- , —, cellulose ether dyed, 157, 2264.
- Yellow-brown, cellulose acetate dyed, 1086.
- Yellow dyes, mfr., 2641.
- Yellow 3G, cellulose acetate dyed using, 711.
- Yellow indigossil HCG, 1027.
- Yellow ochre, fabric coated using, 2483.
- Yellow-red, cellulose acetate dyed, 1085.
- Yoshino paper, coating, 224.
- , —, cellulose ester for, 277.
- , —, cellulose ether for, 277.
- , mfr., 664.
- Zambesi black, cellulose ether dyed using, 2311.
- Zambesi black D, cellulose acetate dyed using, 676.
- Zanzibar, solvents for, 1849.
- Zapon lacquer, stencil sheet made using, 2499.
- Zapon varnish, fabric coated with, 2483.
- Zein, cellulose nitrate film coated with, 706.
- , shoe stiffened using, 2472.
- Zellith, 2568.
- Zellon, 665, 2568.
- Zellugol, 2568.
- Zinc, acetic acid mfr. using, 633.
- , cellulose acetate lacquer containing, 616.
- , cellulose acetate paint containing, 616.
- , cellulose ether impregnated with, 2479.
- , dichlorethylene made using, 550.
- , discharge of salt of, for cellulose ether, 184.
- , leather, substitute of cellulose acetate and, 760.
- , loading benzylcellulose with salts of, 1584.
- , plate printing made using, 648.
- , soap, statue ornamenting with, 189.
- Zinc abietate, sizing with, 2141.
- Zinc acetal, catalyst in aliphatic acid mfr., 1031.
- Zinc acetate, 325, 327, 2142.
- , acetation with, 322, 323.
- , acetic acid mfr. using, 634, 772.
- , acetone made using, 772.
- , benzylcellulose treated with, 1562.
- , cellulose acetate fabric printed with, 940.
- , crepe effect by using, 2333.
- , loading with, 2155.
- , waterproofing with, 218.
- , zinc acetate made using, 772.
- Zinc alginate, cellulose acetate addition for lacquer, 571.
- Zinc alloy, cellulose acetate lacquer containing, 616.
- , cellulose acetate paint containing, 616.
- Zinc aluminate, acetic acid made using, 633.
- , formaldehyde made using, 633.
- , ketene made using, 633, 779.

- Zinc aluminate, methyl alcohol made using, 633.
- Zinc ammonium chloride, hydrolyzing cellulose acetate with, 421.
- Zinc amyl phthalate, 1974.
- Zinc isoamylglyceryl phthalate, mfr., 1016.
- Zinc monoamyl-phthalate, lacquer of cellulose acetate and, 613.
- Zinc benzyl phthalate, 1975.
- Zinc bisulfate, catalyst in cellulose formate mfr., 904.
- Zinc blende, *see* Zinc sulfide.
- Zinc borate, catalyst, 866.
- , catalyst in acetaldehyde mfr., 671.
- Zinc bromide, cellulose pretreated with, 773.
- Zinc butylglyceryl phthalate, cellulose acetate plastifier, 1016.
- , mfr., 1016.
- Zinc butyl phthalate, 1911, 1974.
- , plastic containing, 2570.
- Zinc-*n*-butylphthalate, enamel of cellulose derivative and, 230.
- , lacquer of cellulose derivative and, 230.
- , varnish of cellulose derivative and, 230.
- Zinc butyl resin, properties, 613.
- Zinc butyrate, butyric acid extracted by, 801.
- Zinc carbonate, cellulose ether delustred by, 271.
- , delustring by, 271, 2178.
- Zinc cellulosexanthacetate, 1762.
- Zinc chlorate, cellulose acetate dyed using, 531.
- , cellulose ether dyeing assistant, 2222.
- Zinc chloride, 110, 2059, 2236.
- , acetaldehyde made using, 1047.
- , acetic anhydride mfr. using, 632, 849, 1047.
- , alkylcellulose porosity increased by, 1346.
- , benzylcellulose waterproofed by, 2158.
- , catalyst in acetation, 318, 371, 433.
- , catalyst in acetic anhydride mfr., 707.
- , catalyst in aldehyde mfr., 782.
- , catalyst in cellulose acetating, 354, 364, 417, 484, 667, 670, 688.
- , catalyst in cellulose acetate mfr., 780, 823, 958.
- Zinc chloride, catalyst in cellulose crotonate mfr., 906.
- , catalyst in cellulose esterifying, 680.
- , catalyst in cellulose formate mfr., 904.
- , catalyst in ethyl chloride mfr., 1268.
- , cellulose acetate delustred by, 776.
- , cellulose acetate dyed in presence of, 510.
- , cellulose acetate loaded with, 637.
- , cellulose acetate precipitant, 784, 785.
- , cellulose acetate protected by, in mercerizing, 616.
- , cellulose acetate saponified by, 805.
- , cellulose acetate solubility in, 574.
- , cellulose acetate solvent, 399, 456, 531, 2075.
- , cellulose acetate swelling agent, 642.
- , cellulose acetate treated with, 2315.
- , cellulose diformate solvent, 1017.
- , cellulose ether clarified by, 182.
- , cellulose ether clarity increased by, 1366.
- , cellulose ether dehydrated using, 2337.
- , cellulose ether depolymerized by, 118.
- , cellulose ether dyed in presence of, 2223.
- , dyestuff affinity increased, 2223.
- , cellulose ether mordanted with, 180.
- , cellulose ether precipitant, 63, 2085.
- , cellulose ether softener, 2336, 2350.
- , cellulose ether solvent, 2075, 2221.
- , cellulose ether strengthened by, 2131.
- , cellulose ether swelling agent, 254, 264.
- , cellulose ether treated with, 169.
- , cellulose ether viscosity reduced by, 1362.
- , cellulose ether weighted with, 173.

- Zinc chloride, cellulose oxidized by, 12.  
 —, cellulose phthalate made using, 557.  
 —, cellulose pretreated with, 471, 655, 773.  
 —, cellulose purified by, 1408.  
 —, cellulose solvent, 1109.  
 —, cotton hydrated by, 1515.  
 —, crepe effect produced by, 935, 2333.  
 —, delustring with, 216.  
 —, dyeing in presence of, 2270.  
 —, ethylcellulose flexibility increased by, 1333.  
 —, ethylcellulose depolymerized by, 246.  
 —, ethylcellulose solubilized by, 246.  
 —, ethylcellulose waterproofed by, 2158.  
 —, fabric tautness induced by, 460.  
 —, film made using, 2524.  
 —, flexilizing using, 2520.  
 —, hydrolyzing cellulose acetate with, 421.  
 —, lacquer, black, made using, 2414.  
 —, loading with, 2147, 2149.  
 —, mercerizing by, 505.  
 —, methylcellulose solvent, 26.  
 —, methylcellulose waterproofed by, 2158.  
 —, modifying dyeing properties of fibers by, 831.  
 —, mordanting by, 168.  
 —, mordanting cellulose acetate by, 867.  
 —, mordanting cellulose ether with, 226.  
 —, plastic made containing, 2585.  
 —, plastic, unflammable, containing, 400.  
 —, porosity cellulose acetate increased by, 1007.  
 —, solvent, 1796.  
 —, viscose treated with, 2315.  
 —, viscosity reduced by, 541.  
 —, waterproofing with, 218.  
 —, weighting by, 168.  
 —, weighting cellulose acetate by, 867.  
 —, weighting cellulose ether with, 226, 229.  
 —, wetting agent, 2207.  
 Zinc chromate, acetic acid made using, 633.  
 Zinc chromate, catalyst, 876.  
 —, formaldehyde made using, 633.  
 —, keten made using, 633, 779.  
 —, methyl alcohol made using, 633.  
 Zinc citrate, cellulose nitrate solvent, 1893.  
 —, loading with, 2155.  
 Zinc-copper couple, cellulose acetate etherified in presence of, 1434.  
 —, cellulose benzoate etherified in presence of, 1434.  
 —, cellulose butyrate etherified in presence of, 1434.  
 —, cellulose formate etherified in presence of, 1434.  
 —, cellulose propionate etherified in presence of, 1434.  
 Zinc cyclohexyl phthalate, 1975.  
 Zinc diethyl, delustring with, 2181.  
 Zinc dust, 198.  
 —, acetic anhydride mfr. using, 632.  
 Zinc ethylate, cellulose ether combined with, 272.  
 —, delustring with, 2181.  
 Zinc ethyl phthalate, 1974, 1975.  
 Zinc formaldehydesulfoxylate, 982, 2319.  
 —, discharge printing using, 961.  
 Zinc formate, 2142.  
 Zinc glycollate, loading with, 2165.  
 Zinc halides, cellulose oxidized by, 12.  
 Zinc hydroxide, cellulose ether colored by, 266.  
 —, mordanting with, 266.  
 Zinc iodide, cellulose pretreated with, 773.  
 —, solvent, 1797.  
 Zinc isothiocyanate, cellulose ether solvent, 97.  
 —, film made using, 2528.  
 Zinc lactate, cellulose nitrate solvent, 1893.  
 —, loading with, 2155.  
 Zinc linoleate, lacquer binder, 458.  
 Zinc levulinate, cellulose nitrate solvent, 1893.  
 Zinc methide, *see* Zinc methyl.  
 Zinc methylate, acetic acid mfr. using, 634.  
 —, acetone made using, 772.  
 —, zinc acetate made using, 772.  
 Zinc methyl phthalate, 1974.  
 Zinc molybdate, catalyst, 876.



- Zinc-monoamyl phthalate, lacquer containing, 2396.
- Zinc-monobutylphthalate, lacquer containing, 2396.
- , lacquer of cellulose acetate and, 613.
- Zinc-monoethyl phthalate, lacquer containing, 2396.
- , lacquer of cellulose acetate and, 613.
- Zinc-monopropyl phthalate, lacquer containing, 2396.
- Zinc naphthenate, benzene solvent of, 107.
- , silk sized using, 259.
- , sizing with, 107, 2141, 2309.
- , toluene solvent of, 107.
- , turpentine oil solvent of, 107.
- , xylene solvent of, 107.
- Zinc nitrate, 1696.
- , cellulose acetate dyed using, 531.
- , cellulose acetate saponified by, 805.
- , cellulose acetate made using, 979.
- , cellulose ether coagulant, 1589.
- , cellulose ether dyeing assistant, 2222.
- , mordant containing, 843, 2317.
- , solvent, 1796, 1797.
- Zinc oleate, cellulose ether viscosity reduced by, 1365, 2093.
- , delustring with, 2183.
- , size containing, 2309.
- , silk sized using, 259.
- Zinc oxalate, cellulose nitrate solvent, 1893.
- , delustring using, 2178.
- Zinc oxide, acetaldehyde mfr., using, 481.
- , acetic acid made using, 633.
- , acetone made using, 772.
- , benzylcellulose combined with, 2543.
- , benzylcellulose stabilizer, 1564.
- , card, playing, mfr. using, 2609.
- , catalyst, 876.
- , catalyst in acetaldehyde mfr., 781.
- , catalyst in acetic acid mfr., 781, 957.
- , catalyst in aliphatic acid mfr., 1031.
- , celluloid paint containing, 756.
- , cellulose acetate fabric printed with, 940.
- Zinc oxide, cellulose acetate protected by, in mercerizing, 616.
- , cellulose ester delustred by, 270.
- , cellulose ester weighted with, 216, 270.
- , cellulose ether and, 147.
- , cellulose ether colored by, 266.
- , cellulose ether delustred by, 270, 271.
- , cellulose ether weighted with, 218, 270.
- , cellulose nitrate viscosity reduced by, 918.
- , collar waterproofed by, 566.
- , delustring by, 271, 932, 2169, 2175, 2179, 2183, 2191, 2363.
- , discharge effect using, 2317.
- , ethylbutylcellulose and for lacquer mfr., 2426.
- , ethylcellulose combined with, 2410, 2543.
- , fabric coated using, 2483.
- , film, opaque, made using, 248, 2526.
- , film made using, 2524.
- , formaldehyde made using, 633.
- , keten made using, 633, 779.
- , lacquer containing, 2424.
- , lacquer, chalking in, prevented by, 291.
- , leaded, lacquer containing, 2413.
- , matt effect by, 2180, 2363.
- , methyl alcohol made using, 633.
- , methylbutylcellulose and for lacquer mfr., 2426.
- , methylcellulose combined with, 2543.
- , mordanting with, 266.
- , pigments, 1579.
- , plastic made containing, 2563, 2564, 2569.
- , playing card containing, 203.
- , reserving agent of, 198.
- , rubber combined with, 2410.
- , stencil sheet mfr. using, 628, 763, 2491.
- , tetrachlorethane solidified in, 439.
- , zinc acetate made using, 772.
- Zinc palmitate, delustring with, 2183.
- Zinc perchlorate, bleaching cellulose by, 1411.
- , cellulose purified by, 1411.
- Zinc phenyl phthalate, 1975.
- Zinc phosphate, acetic anhydride mfr. using, 1049.

- Zinc phosphate, benzylcellulose loaded with, 1590.
- , catalyst, 864, 866.
  - , catalyst in acetaldehyde mfr., 671.
  - , catalyst in acetic acid mfr., 516.
  - , cellulose acetate loaded by, 623.
  - , delustring using, 2178.
  - , discharge effect using, 2317.
  - , ethylcellulose loaded with, 1590.
  - , loading with, 2149.
  - , weighting fabric with, 110, 2146.
- Zinc propyl phthalate, 1974.
- Zinc resinate, 1947, 1972, 2105.
- , benzene solvent of, 107.
  - , dichlorethane solvent for, 1816.
  - , lacquer binder, 458.
  - , mildewproofing using, 2202.
  - , sizing with, 107, 2141, 2309.
  - , toluene solvent of, 107.
  - , turpentine oil solvent of, 107.
  - , xylene solvent of, 107.
- Zinc ricinate, 1939.
- Zinc ricinoleate, stencil sheet made using, 2496.
- Zinc salt, benzylcellulose loaded with, 137.
- , discharge effect using, 2317.
  - , ethylcellulose loaded with, 137.
  - , methylcellulose loaded with, 137.
- Zinc selenide, catalyst, 876.
- Zinc silicate, benzylcellulose loaded with, 1590.
- , catalyst, 866.
  - , cellulose acetate loaded by, 623.
  - , delustring with, 2175.
  - , ethylcellulose loaded with, 1590.
  - , weighting fabric with, 110.
- Zinc stannate, cellulose acetate dyed in presence of, 778.
- Zinc stearate, amines solvent for, 2013.
- , delustring with, 2183.
  - , lacquer containing, 192.
  - , silk sized using, 259.
- Zinc stearate, size containing, 2309.
- Zinc sulfate, benzylcellulose water-proofed by, 2168.
- , catalyst in acetation, 433.
  - , catalyst in cellulose acetating, 354.
  - , cellulose acetate with, 477.
  - , cellulose acetate saponified by, 805.
  - , discharge effect produced by, 219.
  - , ethylcellulose waterproofed by, 2158.
  - , methylcellulose waterproofed by, 2158.
  - , wood pulp digested with, 1171.
- Zinc sulfide, card, playing, mfr., using, 292, 2609.
- , catalyst, 876.
  - , cellulose acetate filament containing, 932.
  - , cellulose acetate luster modified by, 937.
  - , cellulose ester delustred by, 271.
  - , cellulose ester weighted by, 271.
  - , cellulose ether delustred by, 271.
  - , cellulose ether weighted by, 271.
  - , delustring by, 260, 2169, 2179.
  - , filament treated with, 2363.
  - , opacity of, 2177.
  - , pearl essence made using, 2617.
  - , phosphorescence produced by, 1372.
  - , playing card containing, 292.
  - , screen, fluorescent, made using, 2541.
- Zinc sulfocyanide, cellulose ether solvent, 108.
- Zinc *iso*-sulfocyanide, cellulose ether solvent, 108.
- Zinc sulforicinoleate, 1939.
- Zinc sulfoxylatealdehyde, discharge on cellulose acetate by, 717, 718.
- Zinc tannate, benzylcellulose loaded with, 1590.
- , ethylcellulose loaded with, 1590.
- Zinc tartrate, cellulose nitrate solvent, 1893.
- Zinc thiocyanate, 2142.

- Zinc thiocyanate, benzylcellulose waterproofed by, 2158.  
—, cellulose acetate solvent, 399.  
—, cellulose ether solvent, 97, 2082.  
—, cellulose ether swelling agent, 254.  
—, ethylcellulose waterproofed by, 2158.  
—, film made using, 2528.  
Zinc thiocyanate, methylcellulose waterproofed by, 2158.  
Zinc tungstate, catalyst, 864, 876.  
Zinc white, card, playing, mfr. using, 2609.  
—, printing ink containing, 2329.  
—, *see also* Zinc oxide.  
Zirconalba, opacity of, 2177.  
*Zirconia, see Zirconium oxide.*  
Zirconium oxide, loading with, 2152, 2156.  
Zirconium oxide, opacity of, 2177.

















